

**Proceedings of the American Academy of Arts and Sciences.**

Vol. XLIX. No. 12.—August, 1914.

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RECORDS OF MEETINGS, 1913-14.

OFFICERS AND COMMITTEES FOR 1914-15.

LIST OF THE FELLOWS AND FOREIGN HONORARY  
MEMBERS.

BIOGRAPHICAL NOTICE.

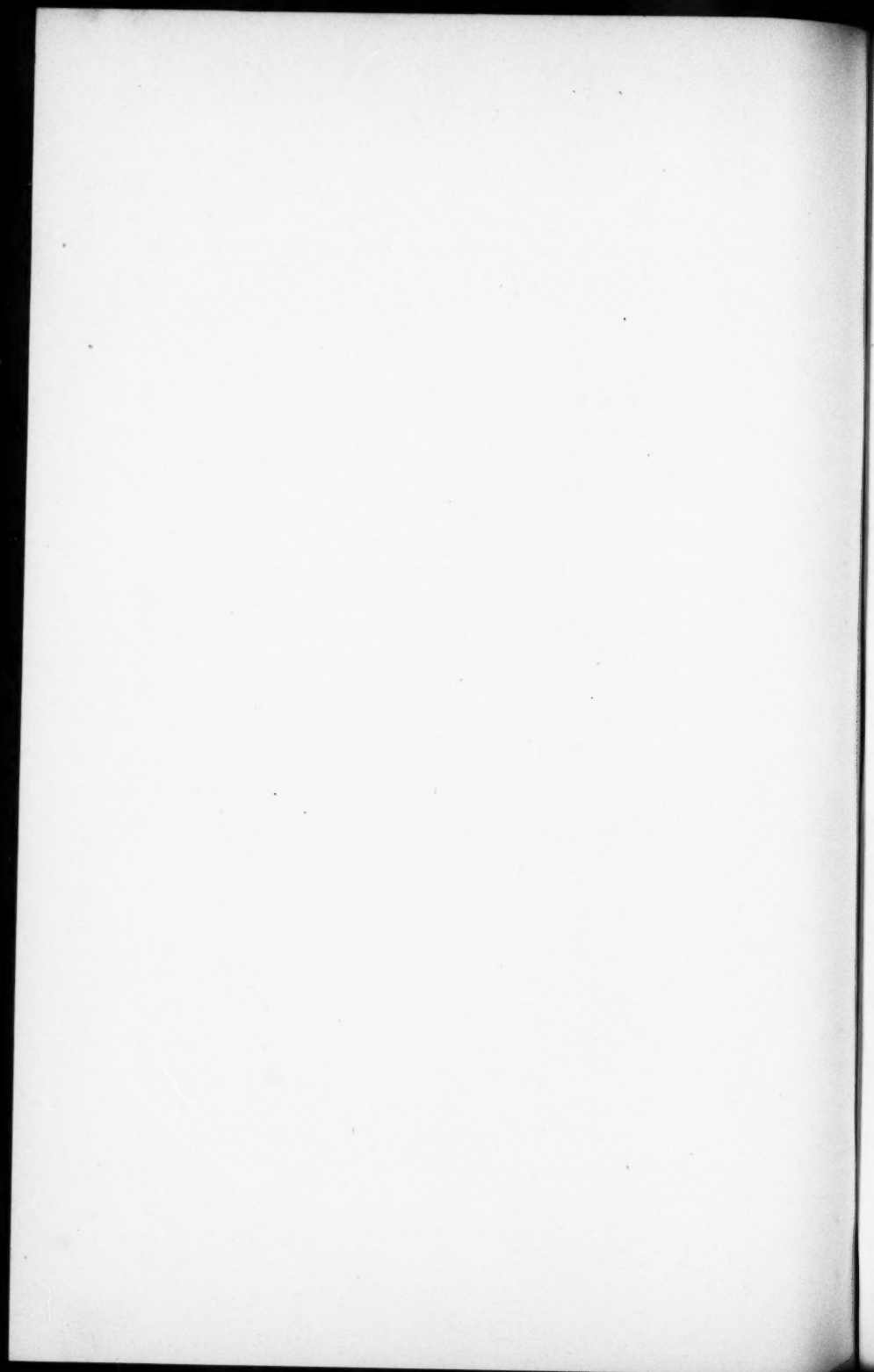
OLIVER FAIRFIELD WADSWORTH. By C. J. BLAKE.

STATUTES AND STANDING VOTES.

RUMFORD PREMIUM.

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## RECORDS OF MEETINGS.

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One thousand and twenty-sixth Meeting.

OCTOBER 8, 1913.—STATED MEETING.

The Academy met at its House.

The PRESIDENT in the chair.

There were forty-eight Fellows and many guests (including ladies) present:

The Corresponding Secretary presented the following correspondence:—G. D. Birkhoff, C. J. Bullock, G. W. Chadwick, J. L. Coolidge, Henry Crew, H. A. Christian, S. M. Crothers, D. R. Dewey, F. P. Fish, Arthur Foote, D. C. French, E. F. Gay, C. H. Grandgent, Robert Grant, C. B. Gulick, C. H. Haskins, E. V. Huntington, H. C. G. von Jagemann, J. R. Jewett, N. A. Kent, Wm. Lawrence, A. D. Little, F. B. Mallory, W. B. Munro, E. H. Nichols, W. A. Noyes, Harold Pender, B. L. Pratt, E. K. Rand, H. N. Sheldon, Moorfield Storey, and G. E. Woodberry, accepting Fellowship; from F. B. Dexter, J. T. Morse, Jr., and C. S. Hastings declining Fellowship; from Adam Politzer, accepting Foreign Honorary Membership; from Miss Sara Norton, presenting papers which passed into the possession of her father, the late Charles Eliot Norton, after the death of Chauncey Wright; from a Committee, proposing to commemorate in 1914 the seventh centenary of Roger Bacon's birth by erecting a statue in his honor, and asking subscriptions; from the Jardin Impériale Botanique de St. Pétersbourg, inviting the Academy to take part in the celebration of its bicentennial jubilee; from the World's Congress of International Associations, stating the object of the Congress; from the President, Trustees and Faculty of Princeton University requesting the presence of a delegate at the dedication of the Graduate College, on October 22nd.

The Chair announced the deaths of the following Fellows:—

Okakura Kakuzo, Fellow in Class III., Section 4; Francis Bartlett, Fellow in Class III., Section 4; Reginald Heber Fitz, Fellow in Class II., Section 4.

The President was authorized to appoint a delegate to attend the Princeton dedication.

The following papers were presented by title:—

"Contributions from the Gray Herbarium of Harvard University. New Series XLIII.—A Taxonomic Study of *Setaria italica* and its immediate Allies." By F. T. Hubbard. Presented by B. L. Robinson.

"Floating Islands." By Sidney Powers. Presented by S. F. Clarke.

"Phase Changes under Pressure. I. The Phase Diagram of Eleven Substances with especial reference to the Melting Curve. By P. W. Bridgman.

The following communications were given:—

"A Winter in Rome." By Professor E. K. Rand.

"Absence of Finality in Physical Science." By Professor John Trowbridge.

At the conclusion of Professor Trowbridge's Communication, a reception was held in the Reading-room, where refreshments were served.

One thousand and twenty-seventh Meeting.

NOVEMBER 12, 1913.

The Academy met at its House.

The PRESIDENT in the chair.

There were twenty-eight Fellows and one guest present.

The following letter was presented:—from Edward Channing, resigning Fellowship.

The following extracts from the will of Francis Amory, who died November 10, 1912, were read:—

EXTRACTS FROM WILL OF FRANCIS AMORY.

Section XXII. I give and bequeath unto the Academy of Arts and Sciences situated in the City of Boston, Mass. in memory of my late uncle, Francis Amory, of Beverly, Mass. the sum of \$25,000, but In Trust nevertheless for the following uses and purposes, namely,

To be safely invested and allowed to accumulate till the expiration of 21 years from the date of my death, and then to devote the income alone thereof, to the award of a "Septennial prize" and a gold medal,



or other token of honor and merit to be awarded by the President and Fellows of said Academy, at their discretion, to any individual or individuals who shall in their judgment and belief, during the said Septennial period next preceding any award thereof, through experiment, study or otherwise discover any notably useful remedy, or invent any cunning device or instrument for the treatment and cure of diseases and derangement of the human sexual generative organs in general, and more especially for the cure, prevention or relief of the retention of urine cystitis, prostatitis, etc., those distressing disorders so common to old men: moreover as a secondary consideration, I direct that should no invention or discovery as aforesaid be made and brought to the knowledge and deliberation of said President and Fellows during said Septennial period and be awarded as aforesaid, then and in that event, the said President and Fellows may award the said prize and medal or both, to any author or authors, during said period, who may have written any theoretical or practical treatise which in their judgment, may be of extraordinary or exceptional value and merit on the anatomy of said organs, or the treatment of said diseases. But in all cases of competition any aforesaid invention or discovery shall take precedence of any authors or theoretical, practical and approved treatise, any one such individual, however, being eligible to both said prize and medal: it being my intention, purpose and design not only to aid and reward as much as possible, those, the pursuit and practise of whose legitimate profession might naturally and spontaneously aid and lead them towards the realization and attainment of the objects and honors for which this bequest is founded, those, in a word, whose merit and reward are uniformly "the children of their voluntary efforts," but moreover also wishing and intending to render the same well worth the while and efforts of even the unprofessional, and to in every way possible awaken and stimulate the attention, zeal, ambition and sympathy therein, of the poorest, the most indifferent and unconcerned. Therefore should any such septennial period elapse without said prize or token or both for the next preceding period having been awarded, then and in that event the said income or any portion thereof, not having been then paid for said prize, medal or token or both for such period, shall be added to said capital sum of \$25,000, and shall become part an parcel of said capital sum and said capital sum shall on no account be expended for any other purpose or object whatsoever.

Section XXV. I desire and suggest that my executors hereinafter named, or whoever shall be charged with the execution of this my will, shall, at the expense of my estate, during the period of three years

after the probate of this will, and that thereafterwards, for the further period of twenty-five years, the respective institutions to whom I have devised and bequeathed the trust funds stated in Sections XXII, XXIII and XXIV of this my will, shall, on each and every anniversary of my death, publish in two or more of the principal newspapers printed in the City of Boston, a succinct but clear exhibit of the nature and design of every endowment or trust fund mentioned in this will, and expressly solicit the public to contribute thereto by subscription, donation or bequest.

Fully persuaded myself of the utility, importance and necessity of the several endowments or trust funds I have hereinbefore created, established and bequeathed, and desiring to promote the comfort, prosperity and happiness of my fellow men, I do hereby most earnestly recommend my fellow citizens, friends and relations generally, to contribute thereto by gift, donation and bequest, for the alleviation of misery, for the promotion and diffusion of knowledge and science, and for the honor and glory of the city.

Section XXVI. My executors, hereinafter named, or whoever shall be charged with the execution of this my will, shall render annually to the Probate Court a detailed and itemized account of their administration, and of the investment of the funds remaining in their hands; and the several institutions, mentioned in Sections XXII, XXIII and XXIV, shall annually, at the close of their fiscal years, publish in two or more of the principal newspapers, printed in Boston, a detailed and itemized account of their respective funds, held under the above trusts, and of the administration and application thereof during said year, so that it may at all times appear, on examination by the public, that my intentions regarding the same have been faithfully observed.

Section XXVII. If any legatee, devisee or annuitant hereinbefore named, shall not accept his, her or their legacy, devise or annuity, subject to the conditions and restrictions hereby imposed, within one year after it becomes due, then and in that event, I hereby give, devise and bequeath any and all legacies, devises or annuities so declined or any part or portion thereof, to the Boston Lying-in Hospital, 24 McLean Street, aforementioned, in the same manner and for the same intents and purposes as those mentioned in Section XXIV of this my will.

On motion of the Corresponding Secretary, it was

*Voted*, That the American Academy of Arts and Sciences agrees to accept the sum of twenty-four thousand dollars (\$24,000.00) in pay-

ment of the legacy of twenty-five thousand dollars (\$25,000.00) left to the Academy under the will of Francis Amory, deceased.

The above concession is made on account of the necessity of a compromise between the Executors of the Will and the Heirs of the Testator in order to prevent a contest.

It was also

*Voted*, That the Treasurer of the American Academy of Arts and Sciences is hereby authorized to receive and receipt for the above legacy on the terms above set forth.

The following Communication was given by Dr. W. S. Bigelow:—

“On the Method of Practising Concentration and Contemplation, by Chisho Daishi, a Monk of the Shuzenji Monastery of Tendai Mountain; translated from the Chinese by Okakura Kakuzu.”

**One thousand and twenty-eighth Meeting.**

DECEMBER 10, 1913.

The Academy met at its House.

The President in the chair.

There were forty-one Fellows and three guests present.

A letter from Albert Bushnell Hart, declining Fellowship, was presented by the Corresponding Secretary.

Dr. Horatio R. Storer, a Resident Fellow of the Academy from 1858 to 1879, presented a small bronze bas-relief of himself, inscribed “To the Master in Surgery, Medical Numismatist and Lover of Man and Nature, Horatio R. Storer, M. D., LL.D., from his friend R. Tait McKenzie, M.D. 1913.”

Mr. Baldwin Coolidge presented a small lithograph, from a drawing by George Rumford Baldwin, in 1830, of the house in which Count Rumford was born.

The above gifts were accepted by the Academy, and the Corresponding Secretary requested to acknowledge them.

Dr. Clarence J. Blake read a biographical notice of Dr. O. F. Wadsworth.

A communication was given by Professor G. W. Pierce on “Wireless Telephony,” accompanied by lantern slides and apparatus, which was followed by discussion, and remarks by Professors Thomson, Webster and FitzGerald.

The meeting then adjourned to the Reading-room, where refreshments were served.

**One thousand and twenty-ninth Meeting.****JANUARY 14, 1914.—STATED MEETING.**

The Academy met at its House.

The PRESIDENT in the chair.

There were thirty-nine Fellows and two guests present.

The Corresponding Secretary presented the following letters:— from the Real Academia de Ciencias y Artes de Barcelona, inviting the Academy to send a delegate to the celebration of the one hundred and fiftieth anniversary of its foundation, January 18–20, 1914; from the Museo Nacional de Acqueologia Historia y Ethnologia, sending the felicitations of the New Year; from the Boston Rotary Club, enclosing tickets to its annual exhibition in Horticultural Hall, January 23–24, 1914.

The Chair announced the deaths of the following Fellows:— Seth Carlo Chandler, Class I., Section 1; Silas Weir Mitchell, Class II., Section 3; Benjamin Osgood Peirce, Class I., Section 2.

The Corresponding Secretary read the following Recommendation of the Council:—

The Council recommends that the following Standing Vote be adopted:—

There may be chosen by the Academy, under the same rules by which Fellows are now chosen, one hundred Resident Associates. Not more than forty Resident Associates shall be chosen in any one Class.

Resident Associates shall be entitled to the same privileges as Fellows, in the use of the Academy building, may attend meetings and present papers, but they shall not have the right to vote. They shall pay no Admission Fee, and their Annual Dues shall be one half that of Fellows residing within fifty miles of Boston.

The Council and Committees of the Academy may ask one or more Resident Associates to act with them in an advisory or assistant capacity.

It was

*Voted*, That this Recommendation be printed on the call for the next Meeting at which it can be considered.

The following gentlemen were elected Fellows of the Academy:— a printed list of nominees having been sent to all Voting Fellows with the notice of the December meeting, in accordance with Chapter III, Article 3 of Statutes:—

In Class I., Section 1 (Mathematics and Astronomy):—

Charles Leonard Bouton, of Cambridge; Clarence Lemuel Elisha Moore, of Boston.

In Class I., Section 2 (Physics):—

Henry Andrews Bumstead, of New Haven, Conn.; John Charles Hubbard, of Worcester; James Edmund Ives, of Worcester; Charles Herbert Williams, of Milton.

In Class I., Section 3 (Chemistry):—

Elmer Peter Kohler, of Cambridge; Arthur Becket Lamb, of Cambridge; Alexander Smith, of New York, N. Y.; Julius Oscar Stieglitz, of Chicago, Ill.

In Class I., Section 4 (Technology and Engineering):—

Francis Tiffany Bowles, of Boston; William Hubert Burr, of New York, N. Y.; Howard Adams Carson, of Malden; John Hays Hammond, of Gloucester; Rudolph Hering, of New York, N. Y.; Henry Marion Howe, of New York, N. Y.; Edward Furber Miller, of Newton; Frederick Haynes Newell, of Washington, D. C.; William Barclay Parsons, of New York, N. Y.; Charles Milton Spofford, of Boston.

In Class II., Section 1 (Geology, Mineralogy, and Physics of the Globe):—

Herbert Percy Whitlock, of Albany, N. Y.

In Class II., Section 3 (Zoology and Physiology):—

Robert Payne Bigelow, of Brookline.

In Class II., Section 4 (Medicine and Surgery):—

Harvey Cushing, of Boston; Richard Pearson Strong, of Boston; Ernest Edward Tyzzer, of Wakefield.

In Class III., Section 1 (Theology, Philosophy and Jurisprudence):—

William Howard Taft, of New Haven, Conn.

In Class III., Section 2 (Philology and Archaeology):—

William Rosenzweig Arnold, of Cambridge; Jeremiah Denis Mathias Ford, of Cambridge; James Haughton Woods, of Cambridge.

In Class III., Section 3 (Political Economy and History):—

Henry Walcott Farnam, of New Haven, Conn.; Roger Bigelow Merriman, of Cambridge; George Grafton Wilson, of Cambridge; George Parker Winship, of Providence, R. I.

In Class III., Section 4 (Literature and the Fine Arts):—

George Pierce Baker, of Cambridge; William Allan Neilson, of Cambridge; Bliss Perry, of Cambridge.

The following gentlemen were elected Foreign Honorary Members of the Academy:—

In Class II., Section 1 (Geology, Mineralogy, and Physics of the Globe):—

Waldemar Christofer Brøgger, of Christiania, Norway.

In Class III., Section 2 (Philology and Archaeology):—

Alfred Percival Maudslay, of London, England.

In Class III., Section 4 (Literature and Fine Arts):—

Sir James Augustus Henry Murray, of Oxford, England.

The following communications were given:—

Mr. Hammond Vinton Hayes. "Government Ownership of Telephones in England."

Dr. William Sturgis Bigelow. "Details of the Buddhist System."

The following paper was presented by title:—

"The Technique of High Pressure Experimenting." By P. W. Bridgman.

One thousand and thirtieth meeting.

FEBRUARY 11, 1914.—SPECIAL MEETING.

The Academy met at its House, called by the President for the purpose of making an appropriation from the income of the General Fund for the use of the Library.

The PRESIDENT in the chair.

There were thirty-seven Fellows present.

The following letters of acceptance of Fellowship were presented by the Corresponding Secretary:— from W. R. Arnold, G. P. Baker, R. P. Bigelow, C. L. Bouton, F. T. Bowles, W. H. Burr, Harvey Cushing, H. W. Farnam, J. D. M. Ford, Rudolph Hering, H. M. Howe, J. E. Ives, E. P. Kohler, A. B. Lamb, R. B. Merriman, E. F. Miller, C. L. E. Moore, W. A. Neilson, W. B. Parsons, Alexander Smith, C. M. Spofford, J. O. Stieglitz, W. H. Taft, E. E. Tyzzer, H. P. Whitlock, C. H. Williams, G. G. Wilson, G. P. Winship, J. H. Woods; from A. P. Maudslay, accepting Foreign Honorary Membership.

The death of Sir David Gill, Foreign Honorary Member in Class I., Section 1, was announced by the chair.

On motion of the Corresponding Secretary, it was

*Voted*, To appropriate one hundred and fifty (\$150.) dollars for Expenses of the Library, and fifty (\$50.) dollars for Books and Binding, from the income of the General Fund.

On the recommendation of the Council, it was

*Voted*, That the following Standing Vote be adopted:—

There may be chosen by the Academy, under the same rules by which Fellows are now chosen, one hundred Resident Associates.

Not more than forty Resident Associates shall be chosen in any one Class.

The election of Resident Associates shall be for a term of three years with eligibility for reëlection.

Resident Associates shall be entitled to the same privileges as Fellows, in the use of the Academy building, may attend meetings and present papers, but they shall not have the right to vote. They shall pay no Admission Fee, and their Annual Dues shall be one-half that of Fellows residing within fifty miles of Boston.

The Council and Committees of the Academy may ask one or more Resident Associates to act with them in an advisory or assistant capacity.

The following communications were given:—

“The Relation of Samaji to the Normal Waking Consciousness.”

By W. S. Bigelow.

“A Note on the Life of Victor Schumann, with some account of recent progress in the Extreme Ultra Violet.” By Professor Theodore Lyman.

The following paper was presented by title:—

“Types of Abnormal Color Vision.” By Dr. Louis Bell.

**One thousand and thirty-first Meeting.**

FEBRUARY 25, 1914.

The Academy met in conjunction with the Lawrence Scientific Association in the Testing-room of the Submarine Signal Company, 25 Atlantic Avenue, Boston.

The PRESIDENT in the chair.

There were sixteen Fellows and many members and guests of the Lawrence Scientific Association present.

The following communication was given:—

“Long Distance Submarine Signalling by Dynamo-Electric Machinery.” By Mr. Reginald A. Fessenden.

It was

*Voted*, To express the thanks of the Academy to the Submarine Signal Co. for the great privilege extended to them of witnessing at their works the remarkable experiments of Mr. Fessenden.



## One thousand and thirty-second Meeting.

MARCH 11, 1914.—STATED MEETING.

The Academy met at its House.

The PRESIDENT in the chair.

There were thirty-nine Fellows present.

The following letters were presented by the Corresponding Secretary:—from J. C. Hubbard, accepting Fellowship; from W. C. Brøgger and Sir James Murray, accepting Foreign Honorary Membership; from the Royal Society of Edinburgh, asking a subscription for the proposed celebration of the tercentenary of the publication of John Napier's "Logarithmorum Canonis Mirifici Descriptio"; to be held in Edinburgh, July 24, 1914; from the Circolo Matematico di Palermo, inviting the Academy to be represented at the thirtieth anniversary of its foundation, to be held April 14, 1914; from the Deutsche Shakespeare Gesellschaft, inviting the Academy to be represented at its fiftieth anniversary, April 22-24, 1914, in Weimar; from the Department of Fine Arts of the Panama-Pacific International Exposition, inviting the Academy to hold a meeting in San Francisco during the Exposition; from the Academia de la Historia, Madrid, requesting a delegate to the celebration of the 400th anniversary of the discovery of the Pacific, to be held at Seville, April 11-15, 1914.

The Chair appointed Professor W. T. Sedgwick to represent the Academy at Seville.

It was

*Voted*, That the Academy subscribe £2 for the Napier celebration.

On the recommendation of the Council, the following appropriations were made for the ensuing year:—

From the General Fund, \$5900. to be used as follows:—

for House expenses	\$1800.
for Library expenses	1950.
for Books, periodicals and binding	1000.
for Meeting expenses	150.
for Treasurer's office	600.
for General expenses	400.

From the income of the Publication Fund, \$2500. to be used for publication.

From the income of the Rumford Fund, \$2952.70 to be used as follows:—



for Research	\$1000.
for Books, periodicals and binding	200.
for Publication	600.
to be used at the discretion of the Committee	1152.70

From the Warren Fund, \$800. to be used at the discretion of the Committee.

It was

*Voted*, To transfer the sum of \$50. from the Rumford Committee's appropriation for the current year for Publication, to the appropriation for Periodicals, books and binding.

The Chair appointed the following Councillors to act as Nominating Committee: —

Robert W. Willson, of Class I.,  
Reginald L. Daly, of Class II.,  
Joseph H. Beale, of Class III.

It was

*Voted*, That the President appoint a representative of the Academy, who, in conjunction with the Librarian, shall confer with representatives of the Boston Society of Natural History, on the possibility of cooperation between the two libraries.

The President appointed Archibald C. Coolidge.

The following communications were given: —

"The Antagonism of Emotional States and the Significance as suggested by Recent Physiological Researches." By Dr. W. B. Cannon.

"The Motion of a Radiating Oscillator." By Professor Edwin B. Wilson.

The following papers were presented by title: —

"The Demagnetizing Factors of Cylindrical Rods in High, Uniform Fields." By B. O. Peirce.

"On Electric Conduction and Thermo-electric Action in Metals." By Edwin H. Hall.

#### One thousand and thirty-third Meeting.

MARCH 16, 1914.—SPECIAL MEETING.

The Academy met at its House, called by the President for the purpose of making an appropriation.

The PRESIDENT in the chair.

There were twenty-two Fellows present.

It was

*Voted*, To appropriate, from the income of the Publication Fund for publication during the current year, the sum of \$609.72.

**One thousand and thirty-fourth Meeting.****MARCH 25, 1914.—SPECIAL MEETING.**

The Academy met at its House, in conjunction with the Departments of Geology of Harvard University and the Massachusetts Institute of Technology.

The PRESIDENT in the chair.

There were twenty-eight Fellows and many guests present.

The following communication was given by Dr. Arthur L. Day, Director of the Geophysical Laboratory at Washington.

"Observations of the Volcano Kilauea (Hawaii) in action."

At the conclusion of the Paper, adjournment was made to the third floor, where refreshments were served.

**One thousand and thirty-fifth Meeting.****APRIL 8, 1914.**

The Academy met at its House.

The PRESIDENT in the chair.

There were thirty-nine Fellows, with Guests present.

The Corresponding Secretary presented the following correspondence: from R. P. Strong and J. H. Hammond, accepting Fellowship; from H. A. Carson and Bliss Perry, declining Fellowship; from R. S. Peabody, resigning Fellowship; from the Naturwissenschaftliche Verein, Karlsruhe, announcing its fiftieth anniversary; from the Deutsche Shakespeare Gesellschaft, Weimar, giving a program of its fiftieth anniversary celebration.

The Chair announced the death of Edward S. Holden, Fellow in Class I., Section 1.

The following Communication was given:—

"Demonstration of a New X-ray Tube, devised by W. D. Coolidge, and a consideration of some Measurements relating to Quality as well as Quantity of X-light." By Dr. Francis H. Williams.

After an extended discussion, participated in by the President, Corresponding Secretary, Vice-President Thomson, Professor Webster, the author of the paper and others, adjournment was made to the third floor, where refreshments were served.

## One thousand and thirty-sixth Meeting.

MAY 13, 1914.—ANNUAL MEETING.

The Academy met at its House.

The PRESIDENT in the chair.

There were forty-five Fellows present.

The following letters were read:— from the University of Missouri, inviting the Academy to be represented at its seventy-fifth anniversary, June 3, 1914; from the President of the committee of the fourth centennial of the discovery of the Pacific, thanking the Academy for the designation of Professor W. T. Sedgwick as its delegate; from the editor of the Danish Weekly "Nordlyset" published in New York city, asking for an expression of welcome to Dr. Georg Brandes, a Foreign Honorary Member, who is expected in New York; from the Comité International de la Médaille et de la Fondation Henri Poincaré, requesting a list of members, with a view to soliciting subscriptions.

The following deaths were announced by the Chair:—

Sir John Murray, Foreign Honorary Member in Class II., Section 1; George William Hill, Fellow in Class I., Section 1; Alfred Noble, Fellow in Class I., Section 4; Charles Pickering Putnam, Fellow in Class II., Section 4; Charles Santiago Sanders Peirce, Fellow in Class III., Section 1.

The following report of the Council was presented:—

Since the last report of the Council, there have been reported the deaths of eleven Fellows:— Okakura-Kakuzo, Francis Bartlett, Reginald Heber Fitz, Seth Carlo Chandler, Silas Weir Mitchell, Benjamin Osgood Peirce, Edward Singleton Holden, Charles Pickering Putnam, George William Hill, Alfred Noble and Charles Santiago Sanders Peirce; and of two Foreign Honorary Members:— Sir David Gill and Sir John Murray.

Two Fellows have resigned:— Edward Channing and Robert Swain Peabody.

Seventy-one Fellows have been elected, of which number five have declined Fellowship, two have not yet accepted election.

Three Foreign Honorary Members have been elected.

The roll now includes 387 Fellows and 55 Foreign Honorary Members.

The annual report of the Treasurer was read, of which the following is an abstract:—

## GENERAL FUND.

*Receipts.*

Balance, April 1, 1913 . . . . .	\$517.16	
Investments . . . . .	2,638.46	
Assessments . . . . .	2,480.00	
Admissions . . . . .	610.00	
Sundries . . . . .	10.00	\$6,255.62

*Expenditures.*

Expenses of Library . . . . .	\$2,986.47	
Expense of House . . . . .	1,696.36	
Expense of Meetings . . . . .	208.61	
Treasurer . . . . .	186.57	
Insurance . . . . .	110.80	
Fireproofing . . . . .	241.03	
General Expenses of Society . . . . .	378.56	
Interest on Bonds, bought . . . . .	6.39	
Income transferred ot principal . . . . .	221.73	\$6,036.52
Balance, April 1, 1914 . . . . .		219.10
		<u>\$6,255.62</u>

## RUMFORD FUND.

*Receipts.*

Balance, April 1, 1913 . . . . .	\$1,735.65	
Investments . . . . .	3,190.36	
Sale of Publications . . . . .	22.50	\$4,948.51

*Expenditures.*

Research . . . . .	\$1,600.00	
Books, periodicals and binding . . . . .	263.91	
Publication . . . . .	669.38	
Medals . . . . .	400.00	
Prof. Richards for Table of Constants . . . . .	100.00	
Sundries . . . . .	1.00	
Income transferred to principal . . . . .	150.39	\$3,184.68
Balance, April 1, 1914 . . . . .		1,763.83
		<u>\$4,948.51</u>

## C. M. WARREN FUND.

*Receipts.*

Balance, April 1, 1913 . . . . .	\$737.04	
		\$1,702.24
Investments . . . . .	<u>965.20</u>	

*Expenditures.*

Research . . . . .	\$275.00	
Vault rent, part . . . . .	4.00	
Income transferred to principal . . . .	<u>32.22</u>	\$311.22
Balance, April 1, 1914 . . . . .		<u>1,391.02</u>
		\$1,702.24

## PUBLICATION FUND.

*Receipts.*

Balance, April 1, 1913 . . . . .	\$1,067.04	
Appleton Fund investments . . . . .	844.26	
Centennial Fund investments . . . . .	2,388.49	
Sale of Publications . . . . .	<u>249.86</u>	\$4,549.65

*Expenditures.*

Publications . . . . .	\$4,375.82	
Vault rent, part . . . . .	12.50	
Income transferred to principal . . . .	<u>156.27</u>	\$4,544.59
Balance, April 1, 1914 . . . . .		<u>5.06</u>
		\$4,549.65

May 13, 1914.

The following reports were also presented:—

#### REPORT OF THE LIBRARY COMMITTEE.

The general cataloguing of books in the Library has recently been brought up to date, and can probably be now maintained with moderate effort.

The large collection of pamphlets is filed alphabetically, and it has not yet seemed that the considerable cost of cataloguing it would be justified.

The most important work now awaiting attention is that of filling gaps in our serial publications, and as time permits, attention will be concentrated upon this. The labor and time which may be expended in this direction are naturally almost unlimited.

Supplementing previous action of the Council, the Librarian has endeavored, by correspondence and conferences to enlist interest in the publication by the Library of Congress or the Carnegie Institution of the Handbook of the Learned Societies of the Old World. It seems unlikely that any progress can be made, however, in the near future.

Mr. Thomas J. Homer of Boston, with the support of this and other libraries, is working on a new edition of the list of periodicals currently received by the principal libraries in this vicinity.

Plans for coöperation with the library of the Boston Society of Natural History are under consideration by a joint committee.

A valuable collection of manuscripts of the late Professor Benjamin Peirce has recently been received from his heirs for care and safe-keeping, which will doubtless be permanent.

A copy of the eleventh edition of the Encyclopedia Britannica has been placed in the Reading Room.

The British Academy and the Cardiff (Wales) Naturalists' Society have been added to our exchange list.

During the year, 107 books have been borrowed from the Library by 26 persons, including 17 Fellows and 2 libraries. All but 7 books have been returned for examination, or satisfactorily accounted for.

The number of bound volumes on the shelves at the time of the last report was 32,715. 960 volumes have been added during the past year, making the number now on the shelves 33,675. This includes 91 purchased from the income of the General Fund, 23 from that of the Rumford Fund, and 846 received by gift or exchange.

265 of the last mentioned are brochures, placed on the shelves in pamphlet covers. The pamphlets added during the year number 453.

The expenses charged to the Library during the same period are: —  
Salaries, including that of the Assistant Librarian, whose time is  
devoted largely to other services of the Academy, . . . \$1493.88

## Binding:

General Fund . . . . .	620.90
Rumford Fund . . . . .	66.65
Purchase of periodicals and books:	
General Fund . . . . .	673.80
Rumford Fund . . . . .	197.26
Miscellaneous, . . . . .	197.89
Total	<u>\$3250.38</u>

Following is a list of periodicals purchased for the Library: —  
Academy.

- R Annalen der Physik und Chemie.  
R " " " " " Beiblätter.  
Annales de Chimie. }  
R Annales de Physique. }  
Annales des Mines.  
Annales des Ponts et Chaussées.  
Annales des Sciences Naturelles Botanique.  
" " " " Zoologie.  
Annals and Magazine of Natural History.  
Année Scientifique et Industrielle.  
Archiv für Anatomie und Physiologie.  
Archiv für mikroskopische Anatomie.  
Astronomical Journal.  
Astronomische Nachrichten.  
Berliner Astronomisches Jahrbuch.  
R Central-Zeitung für Optik u. Mechanik.  
Chemical News.  
R Comptes Rendus.  
Curtis's Botanical Magazine.  
Deutsche Chemische Gesellschaft. Berichte.  
R Dinglers Polytechnisches Journal.  
Ecole Normale Sup. Annales Scientifique.  
R Elektrotechnische Zeitschrift.  
Engineering.  
R Fortschritte der Elektrotechnik.  
R Fortschritte der Physik.  
Geological Magazine.  
International Cat. of Scientific Lit.

- Jahrbuch der Chemie (Meyer).  
 R Jahrbuch für Photographie.  
 Jahrbuch u. d. Fortschritte der Mathematik.  
 Jahresbericht der Gesamten Medicin.  
 Jahresbericht u. d. Fortschritte der Chemie.  
 Journal de l'Anatomie et de la Physiologie.  
 Journal de Mathématiques.  
 R Journal de Physique.  
 Journal für praktische Chemie.  
 Journal of Morphology.  
 Justus Liebig's Annalen der Chemie.  
 R London, Edin. & Dub. Philosophical Mag.  
 R Lumière Electrique.  
 Minerva.  
 Monatshefte für Mathematik u. Physik.  
 Mycologia.  
 Neues Jahrbuch für Mineralogie.  
 " " " " Beilage.  
 Nouvelles Annales de Mathématiques.  
 Nuovo Cimento.  
 Petermann's Mitteilungen.  
 R Physikalische Zeitschrift.  
 R Quarterly Journal of Microscopical Sci.  
 Revue Générale des Sciences.  
 Science.  
 Wer ist's.  
 Who's who.  
 Who's who in America.  
 R Wilson's Photographic Magazine.  
 Zeitschrift für Analytische Chemie.  
 Zeitschrift für Biologie.  
 Zeitschrift für Elektrochemie.  
 R Zeitschrift für Instrumentenkunde.

The use of the Library, while slightly larger than in previous years, is still far short of what it might be. It is hoped that members of the Academy may, as opportunity offers, bring the resources of the Library to the knowledge of scholars in need of them. The new parcel post regulations should facilitate a somewhat wider service.

H. W. TYLER, *Librarian.*

May 13, 1914.

R Purchased from the income of the Rumford Fund.



## REPORT OF THE RUMFORD COMMITTEE.

During the present year, grants have been made in aid of research as follows:—

October 8, 1913, to Professor Gilbert N. Lewis, of the University of California, in aid of his researches on the "Free Energy Changes in Chemical Reactions" (additional) . . . . . \$300

To Professor William O. Sawtelle, of Haverford College, in aid of his research on the "Spectra of the Light from the Spark in an Oscillatory Discharge" (additional) . . . . . 300

To Professor Harvey N. Davis, of Harvard University, in aid of various thermodynamical researches . . . . . 200

November 12, 1913, to Professor Louis V. King, of McGill University, to defray expenses of computation for his research on the "Scattering and Absorption of Solar Radiations in the Earth's Atmosphere" . . . . . 250

January 14, 1914, to Professor Alpheus W. Smith, of Ohio State University, in aid of his research on the "Hall and Nernst Effect in the Rare Metals." . . . . 100

To Professor Charles G. Abbott of the Smithsonian Astrophysical Observatory, in aid of his research on the "Application of Solar Heat to Domestic Purposes." . . . . 150

April 8, 1914, to Professor P. W. Bridgman, of Harvard University, in aid of his thermodynamical researches at high pressures . . . . . 250

Reports of progress in their several researches have been received from the following persons: C. G. Abbott, P. W. Bridgman, W. W. Campbell, A. L. Clark, D. F. Comstock, H. N. Davis, E. B. Frost, F. E. Kester, F. G. Keyes, L. V. King, E. F. Nichols, E. L. Nichols, C. L. Norton, J. A. Parkhurst, T. W. Richards, G. W. Ritchey, F. A. Saunders, W. O. Sawtelle, A. W. Smith, F. W. Very, A. G. Webster, and R. W. Wood.

The following papers have been published in Volume 49 of the Proceedings of the Academy with aid from the Rumford Fund since the last annual meeting.

No. 1. "Thermodynamic Properties of Twelve Liquids between 20° and 80° and up to 12,000 Kgm. per Sq. Cm.," by P. W. Bridgman.

No. 4. "An improved Method for Determining Specific Heats of Liquids, with Data concerning Dilute Hydrochloric, Hydrobromic, Hydriodic, Nitric, and

- Perchloric Acids and Lithium, Sodium and Potassium Hydroxides," by T. W. Richards and A. W. Rowe.  
No. 11. "The Technique of High Pressure Experimenting," by P. W. Bridgman.

At the meeting of March 11, 1914, it was unanimously voted for the first time and at the meeting of April 8, 1914, for the second time to recommend to the Academy that the Rumford Premium be awarded to William David Coolidge for his invention of Ductile Tungsten and its application in the production of Radiation.

CHARLES R. CROSS, *Chairman*.

May 13, 1914.

#### REPORT OF THE C. M. WARREN COMMITTEE.

The C. M. Warren Committee begs to report that there was an unexpended balance of the appropriation for the use of the Committee of \$360 at the beginning of the year. In addition to this, the sum of \$500 was appropriated by the Academy.

During the year three grants have been made, one an additional grant of \$50 to Professor E. W. Washburn, for use in connection with an adiabatic calorimeter; a grant of \$225 to Professor R. F. Brunel for work on equilibria in organic reactions where optically active radicals are concerned; and \$200 to Professor S. Lawrence Bigelow for study of osmotic membranes.

The Committee has received satisfactory reports of progress from most of those who have received grants from the Fund.

Respectfully submitted,

H. P. TALBOT, *Chairman*.

May 13, 1914.

#### REPORT OF THE PUBLICATION COMMITTEE.

Between April 1, 1913, and April 1, 1914, there were published four numbers of Volume XLVIII (Nos. 18 to 21 inclusive), eleven numbers of Volume XLIX of the Proceedings, and one Memoir (Volume 14, No. 1) making in all 859 pages.

There was available for the use of the Publication Committee an unexpended balance from last year of \$1067.04, an appropriation of \$2500 and an additional appropriation of \$609.72, and an amount of \$249.86 from the sales of publications — in all, \$4,425.62 from the

Publication Fund and sales. Bills against this appropriation to the amount of \$4,422.44 have been approved by the Chairman. This leaves an unexpended balance of \$4.18.

Bills aggregating \$522.51, incurred in publishing papers on light and heat, have been referred to the Rumford Committee for payment from the Rumford Fund in accordance with authority of the Chairman of that Committee.

G. W. PIERCE, *Chairman*.

May 13, 1914.

#### REPORT OF THE HOUSE COMMITTEE.

The House Committee submits the following report for the year 1913-1914:

The Committee had at its disposal at the beginning of the year a balance of \$15.22. The appropriations by the Academy for the year amounted to \$1700, making a total of \$1715.22. Of this sum \$1,696.36 has been expended, which may be summarized as follows:

Janitor . . . . .	\$725.00
Electricity, A. { Light . . . . .	96.78
B. { Elevator . . . . .	44.80
Gas . . . . .	8.28
Water . . . . .	12.60
Telephone . . . . .	75.39
Coal, { Furnace, 60 tons . . . . .	413.98
{ Water heater, 4 tons . . . . .	30.50
Ash tickets . . . . .	14.35
Care of Elevator . . . . .	33.33
Ice . . . . .	14.40
Janitor's materials . . . . .	10.34
Furniture . . . . .	205.10
Up-keep . . . . .	11.51
Total expenditure . . . . .	\$1,696.36
Appropriated . . . . .	1,715.22
Unexpended balance . . . . .	\$98.86

During the year the Academy has held eight regular and two special meetings in the buildings, and the small rooms have been used by Councils and Committees. The Colonial Society has held its meetings in the building during the year, and the American Oriental Society held all day sessions on April 16th and 17th. The arrangement of the

previous year with respect to janitorial service has been continued with satisfactory results. The building has been open during the same hours, namely, from 8 A. M. to 5 P. M., and 1 P. M. on Saturdays. The Committee has received no suggestions regarding any change of hours from the members of the Academy.

The Committee again desires to express its sense of obligation to Mrs. Holden, the assistant librarian, for her coöperation and assistance.

Respectfully submitted,

H. P. TALBOT, *Chairman.*

May 13, 1914.

On the recommendation of the Rumford Committee, it was  
*Voted*, To award the Rumford Premium to Dr. William David Coolidge, of Schenectady, N. Y., for his invention of Ductile Tungsten and its Application in the Production of Radiation.

On motion of the Treasurer, it was

*Voted*, That the Annual Assessment be ten (10) dollars.

The annual election resulted in the choice of the following officers and committees:—

JOHN TROWBRIDGE, *President.*

ELIHU THOMSON, *Vice-President for Class I.*

HENRY P. WALCOTT, *Vice-President for Class II.*

A. LAWRENCE LOWELL, *Vice-President for Class III.*

EDWIN H. HALL, *Corresponding Secretary.*

WILLIAM WATSON, *Recording Secretary.*

CHARLES P. BOWDITCH, *Treasurer.*

HARRY W. TYLER, *Librarian.*

*Councillors for Four Years.*

FREDERICK S. WOODS, of Class I.

ALFRED C. LANE, of Class II.

SAMUEL WILLISTON, of Class III.

*Councillor for Three Years, in place of G. L. Kittredge, resigned.*

WILLIAM S. BIGELOW, of Class III.

*Finance Committee.*

JOHN TROWBRIDGE,

GARDINER M. LANE,

JOHN COLLINS WARREN.

*Rumford Committee.*

CHARLES R. CROSS,  
EDWARD C. PICKERING,  
ARTHUR G. WEBSTER,

ERASMUS D. LEAVITT,  
ELIHU THOMSON,  
LOUIS BELL,

ARTHUR A. NOYES.

*C. M. Warren Committee.*

HENRY P. TALBOT,  
CHARLES L. JACKSON,  
ARTHUR A. NOYES,

WALTER L. JENNINGS,  
GREGORY P. BAXTER,  
JAMES F. NORRIS,

WILLIAM H. WALKER.

*Publication Committee.*

GEORGE W. PIERCE, of Class I.  
WALTER B. CANNON, of Class II.  
ALBERT A. HOWARD, of Class III.

*Library Committee.*

HARRY M. GOODWIN, of Class I.  
SAMUEL HENSHAW, of Class II.  
WILLIAM C. LANE, of Class III.

*House Committee.*

HENRY P. TALBOT,

LOUIS DERR,

HAMMOND V. HAYES.

*Committee on Meetings.*

THE PRESIDENT,  
WILLIAM M. DAVIS,

THE RECORDING SECRETARY  
WALLACE C. SABINE

ARTHUR FAIRBANKS.

*Auditing Committee.*

ELIOT C. CLARKE,

WORTHINGTON C. FORD.

The following gentlemen were elected Fellows of the Academy,—  
a printed list of nominees having been sent to all Voting Fellows with  
the notice of the April meeting, in accordance with Chapter III.,  
Article 3, of the Statutes:—

In Class I., Section 1 (Mathematics and Astronomy): —

Roland George Dwight Richardson, of Providence.

In Class I., Section 2 (Physics): —

William Johnson Drisko, of Boston; William Duane, of Boston; Charles Clifford Hutchins, of Brunswick, Me.; Ernest George Merritt, of Ithaca, N. Y.; Dayton Clarence Miller, of Cleveland, O.; Robert Andrews Millikan, of Chicago.

Class I., Section 3 (Chemistry): —

Marston Taylor Bogert, of New York; Harmon Northup Morse, of Baltimore; Thomas Burr Osborne, of New Haven; Samuel Cate Prescott, of Brookline; Martin André Rosanoff, of Worcester.

Class I., Section 4 (Technology and Engineering): —

Alexander Crombie Humphreys, of New York; Edward Dyer Peters, of Dorchester; George Chandler Whipple, of Cambridge.

Class II., Section 1 (Geology, Mineralogy and Physics of the Globe):

Louis Caryl Graton, of Cambridge.

Class II., Section 2 (Botany): —

George Perkins Clinton, of New Haven; Fred Dayton Lambert, of Tufts College; Burton Edward Livingston, of Baltimore; George Richard Lyman, of Hanover, N. H.; Alfred Rehder, of Jamaica Plain; Erwin Frink Smith, of Washington.

Class II., Section 3 (Zoölogy and Physiology): —

Edwin Grant Conklin, of Princeton; Herbert Spencer Jennings, of Baltimore; Ralph Stayner Lillie, of Worcester; Jacques Loeb, of New York; Herbert Vincent Neal, of Tufts College.

Class II., Section 4 (Medicine and Surgery): —

Alexis Carrel, of New York; Charles Value Chapin, of Providence; Frederick Cheever Shattuck, of Boston; Frederick Herman Verhoeff, of Boston.

Class III., Section 1 (Theology, Philosophy and Jurisprudence): —

James De Normandie, of Roxbury; George Angier Gordon, of Boston; John Wilkes Hammond, of Cambridge; Alfred Hemenway, of Boston; Nathan Matthews, of Boston; William Cushing Wait, of Medford; Eugene Wambaugh, of Cambridge; John Henry Wigmore, of Chicago.

Class III., Section 2 (Philology and Archaeology): —

Francis Greenleaf Allinson, of Providence; Maurice Bloomfield, of Baltimore; Bert Hodge Hill, of Athens, Greece; George Andrew Reisner, of Cambridge.

Class III., Section 4 (Literature and the Fine Arts): —

Ellery Sedgwick, of Boston; Owen Wister, of Philadelphia.

The following gentlemen were elected Foreign Honorary Members:—

In Class I., Section 1 (Mathematics and Astronomy): —

Johann Oskar Backlund, of St. Petersburg.

In Class I., Section 2 (Physics): —

Max Planck, of Berlin.

In Class I., Section 3 (Chemistry): —

Fritz Haber, of Berlin; Walter Nernst, of Berlin.

In Class II., Section 1 (Geology, Mineralogy and Physics of the Globe): —

Viktor Goldschmidt, of Heidelberg, Germany.

In Class II., Section 2 (Botany): —

John Briquet, of Geneva, Switzerland; Ignatz Urban, of Berlin; Eugene Warming, of Copenhagen.

In Class III., Section 4 (Literature and the Fine Arts): —

Sir Sidney Lee, of London.

The following communication was given: —

Professor R. DeC. Ward. "The Weather Element in the Climate of New England."

The following papers were presented by title: —

"The Pathological Action of Radiant Energy on the Eye." By F. H. Verhoeff. Presented by Louis Bell.

"The Influence of the Magnetic Characteristics of the Iron Core of an Induction Coil upon the Manner of Establishment of a Steady Current in the Primary Circuit." By B. Osgood Peirce.

"Laboulbeniales Parasitic on Chrysomelidae." By Roland Thaxter.





## OLIVER FAIRFIELD WADSWORTH.

BORN, BOSTON, APRIL 26, 1838.

DIED, BOSTON, NOVEMBER 29, 1911.

Fellow of the American Academy of Arts and Sciences  
Class 2, Section 4, January 11, 1899.

AMONG Dr. Wadsworth's dominant characteristics were his fairness, his kindliness and his accuracy in observation and in statement; his fairness was exemplified in the justice of his appreciation of the work of his fellows in school, in college, and in professional life; his kindliness in the numberless human contacts which were a part of the experience of his hospital and private practice, extending over nearly half a century, and his accuracy was traceable to a parentage which made exactitude a daily practice and a continuous obligation.

Graduating from Harvard College in 1860, and not altogether satisfied with his own estimate of the value of his work there, although he had excelled in some of his studies and been always a joyous participator, and one of the leaders, in athletics, desirous of strenuous effort at accomplishment, he departed from accustomed and easy ways and made out into the then new west, taking up land near Denver and entering upon a farming proposition including the construction of an irrigating system sufficient in extent to occupy the major part of his two years of residence there. To the planning and execution of this work there must have been applied the inherent traits exhibited by his father in the admirable surveys, which are a synonym for reliability, faculties which showed themselves later in Dr. Wadsworth in other ways. The journey westward, a part of it in the most primitive of conveyances, and the self enforced residence with a stated task, was penitential in that it sought to wrest something tangible from his graduate days in compensation for what he deemed to have been lack of success in his undergraduate career. That this opinion was born of Dr. Wadsworth's moderate estimate of himself, as contrasted with his sense of duty and his aspirations, is set forth by the opinion of his classmates and, more authoritatively, in the recorded

word of the then president of Harvard College, in a letter bearing date June 8, 1860.

"I have great pleasure in stating that Mr. Oliver F. Wadsworth, a member of the present senior class, is much esteemed by the faculty of the college as a gentleman of high and honorable character, and worthy of the confidence and respect of any community in which he may establish himself. He has been faithful to his duties, agreeable in his manners and amiable in temper. I have much satisfaction in commending him to the associates he may be connected with in his new residence. I am sure they will find him not only a well-educated young man, but what is better still, a gentleman of honor and integrity, and deserving their high regard."

(signed) C. C. FELTON,  
President of Harvard College.

Whatever else the adventure into the west may have accomplished, it afforded a new consideration of the uses of life and an opportunity for maturing reflection which led him, upon the basis of a predilection, to turn to the study of medicine as a means for the expression of his desire in life and he entered the Harvard Medical School in March, 1862.

During the summer of that year he assisted in removing northward sick and wounded prisoners of the Peninsular Campaign under the auspices of the Sanitary Commission. In 1864 he was made a house officer in the Massachusetts General Hospital and graduated from the Harvard Medical School to be immediately commissioned Assistant Surgeon of the Fifth Massachusetts Cavalry. In July of the same year he was detailed for special duty at headquarters Twenty-Fifth Army Corps and remained in service until the mustering out of his regiment at the close of the war, being breveted captain in recognition of his fidelity to duty and the care which he bestowed upon the details of his work.

Deciding to devote himself to ophthalmology he went abroad to study in February 1869, returning in November 1870 to take up the practice of his chosen specialty. Almost immediately upon his return he was made Ophthalmic Surgeon to the Boston City Hospital and in 1874 Ophthalmic Surgeon to out-patients of the Massachusetts General Hospital, in 1881 he was appointed clinical instructor and in 1895 professor in the Harvard Medical School and, in the same

year, Ophthalmic Surgeon to the Massachusetts Charitable Eye and Ear Infirmary.

In all these positions he displayed the same care, patience, tact, and skill, and his reputation as a practitioner and diagnostician was enhanced by his clarity as a teacher for, scrupulously careful as he was himself in all his observations, he was equally patient in the demonstration of his ascertained facts and in the training of his students. He was an active member and, for a time, president of the New England Ophthalmological Society and both there and in his papers before the Boston Society of Medical Sciences displayed in the discussion of mathematical subjects an ability which won him the confidence of his compeers. As a member of the American Ophthalmological Society he was a valuable contributor in its meetings, quite as much in the way of discussion of other papers as in the carefully prepared communications which he himself presented for he was strenuous in argument, keen in perception of failure in a logical sequence, and dogged in his determination to arrive at the scientific facts in any subject under consideration.

With all the work entailed by his hospital appointments and the demands of a large private practice, Dr. Wadsworth found time for study in his favorite subject, he was a close student of ophthalmologic literature and was almost encyclopedic in his ability to refer to and place a title or an author.

Of the forty-six original papers contributed by Dr. Wadsworth in the meetings of the various societies of which he was a member and to foreign journals, fifteen were upon conditions in the retina, choroid or optic nerve as might be expected of one who as an ophthalmoscopist was, as one of his associates has said, "the admiration and despair of his colleagues," nine papers treated of operations, four were upon anomalies of muscular balance and four were based upon original scientific research, including his description of the fovea centralis.

In addition to his special interests he found time to devote himself to the more general service of the members of his profession as assistant editor of the Boston Medical and Surgical Journal during the year 1868, and as one of the most valuable contributors of time, thought and labor to the upbuilding of the Boston Medical Library, a project originating with the late Dr. J. R. Chadwick and now grown to be of great value not only in itself to this community, but as an example which has been followed in the foundation of similar libraries throughout the United States.

The estimate in which Dr. Wadsworth was held by those who had to deal with him in his daily life contains always expressions of appreciations of his balance, his judgment, his kindness, and, admiringly, of his power of concentration, and a gentleman who was intimately connected with him in both the Massachusetts General Hospital and the Massachusetts Charitable Eye and Ear Infirmary, says, "he was an extremely just, honorable, and high minded man, I have never known one who could do a kindness in so kindly a way, I never knew him to be hurried and, so far as one could judge by outward appearances, worried, as an illustration of the latter quality, after a long evening's work with him on statistics which he was compiling he remarked, just as I was leaving him, that one of his sons was very ill and that his recovery was extremely doubtful. Under such conditions to see a man his normal self through an entire evening and working over statistics with no indication of worry or anxiety impressed me very strongly. That he did worry and was anxious no one will doubt but he had the ability to an exceptional degree of being calm and composed in the face of an impending great calamity. Another quality which will come prominently to the minds of his friends was his love of argument, no one associated with him could fail to believe that there were two or more sides to every question, he never lost his temper, made use of sarcasm to rout his adversary or in any way showed contempt or want of consideration for the other opinion. He parted with the best of feeling and usually with a laughing regret that agreement was impossible.

In his chosen specialty Dr. Wadsworth held high rank, at medical meetings he was always prominent as a critic, a weak point in diagnosis or in argument rarely escaped his notice and his criticisms were so sound and well expressed that they were always received with exceptional interest and consideration. He was not a prolific writer, probably for the reason that much material which might have been placed on record did not pass his own criticism as to the accuracy and value when it came to be seriously considered and he has been known to spend much time and labor in preparing material for a paper that, in the end, was not thought worthy of being written and printed.

He was extremely successful as a practitioner and devoted much time and care to the study of his cases, as a diagnostician in ophthalmoscopy he was exceptionally brilliant and it is doubtful if he had a superior in this branch of his specialty.

Another hospital associate of Dr. Wadsworth has said — "his skill in the use of the ophthalmoscope and the accuracy of his diagnoses

were known to all his colleagues and were universally acknowledged by all who came in contact with him professionally. The careful study and patient investigation which he gave to each case that came under his care was never abridged by any consideration of time or personal convenience. His mental attitude until his diagnosis was made was always that of the impartial scientific observer." And still another, in the conclusion of a tribute to his memory, called him "the teacher of us all." That he was a teacher in example as in precept has come to the consciousness of the many who have known him even passingly; we judge a man by his attitude toward life with its buoyant activities and take the measure of him again as he faces death; with a physician's knowledge of the nature of his malady, in the midst of the prolonged pain which was a part of it, he was courageous so calmly that his courage did not ripple the surface of his courtly kindness and a last visit to him, shortly before his death, is a memory of a pleasant familiar presence, a warm greeting and no mention of farewell.

DR. CLARENCE J. BLAKE.

*Papers of Dr. O. F. Wadsworth.*

Rupture of the sclerotic. *Boston M. & S. J.*, 1868.

Anaesthesia of the Retina. *Boston M. & S. J.*, 1872.

An unusual case of herpes zoster ophthalmicus. *Boston M. & S. J.*, 1875.

A case of ectropion treated by transplantation of a large flap without pedicle. *Boston M. & S. J.*, 1876.

A modification of the ophthalmoscope. *Boston M. & S. J.*, 1877.

Epithelioma of the limbus vorneae. *Boston M. & S. J.*, 1879.

Optico-ciliary neurotomy. *Boston M. & S. J.*, 1879.

Intra-ocular circulation; rhythmical changes in the venous pulse of the optic disk. (With Dr. J. J. Putnam.) *J. Nerv. & Ment. Diseases*. Chicago, 1878. Also *Tr. Am. Ophth. Soc.*, New York, 1878.

Optico-ciliary neurotomy (case). *Boston M. & S. J.*, 1879.

Microscopic section of an epithelioma of the limbus corneae. *Boston M. & S. J.*, 1879.

Optico-ciliary neurotomy (2 cases). *Boston M. & S. J.*, 1879.

Peculiar affection of the ocular muscles. *Boston M. & S. J.*, 1880.

Color-Blindness. *Boston M. & S. J.*, 1880.

Optic neuritis after measles. *Boston M. & S. J.*, 1880.

Beiträge zur Ophthalmologie, als Festgabe Wiesbaden Friedr. Homer's zur Feier d. 25 jähr. Jubiläums seiner Academ. Lehrthatigkeit gewidmet von M. Dufour, O. Haab, M. Knies, J. Michel, W. Schoen, und O. F. Wadsworth. 1881.

Circulation in the macula lutea retinae. *Boston M. & S. J.*, 1881.

Optico-ciliary neurotomy. *Tr. Am. Ophth. Soc., New York*, 1881.

The fovea centralis in man. *Beitr. z. Ophth. Wiesbaden*, 1882.

Optico-ciliary neurotomy. *Med. & Surg. Rep. Boston City Hospital*, 1882.

Phlyctenular disease of the eyes. *Boston M. & S. J.*, 1883.

Some cases of hysterical affection of vision. *Boston M. & S. J.*, 1883.

Apparent curvature of surface caused by prismatic glasses. *Boston M. & S. J.*, 1883.

Three cases of homonymous hemianopia. *Boston M. & S. J.*, 1884.

A case of myxoedema with atrophy of the optic nerves. *Boston M. & S. J.*, 1885. Also *Tr. Am. Ophth. Soc., Boston*, 1885.

A case of permanent zonular scotoma of traumatic origin; very small circle of central field with vision normal. *Am. J. Ophthal., St. Louis*, 1884-5.

Double optic neuritis and ophthalmoplegia from lead-poisoning; complicated by typhoid fever. *Boston M. & S. J.*, 1885. Also *Tr. Am. Ophth. Soc., Boston*, 1885.

Luxation of lens beneath Tenon's capsule. *Boston M. & S. J.*, 1885. Also *Tr. Am. Ophth. Soc., Boston*, 1885.

Lead-Poisoning complicated with probable typhoid fever. *Boston M. & S. J.*, 1885.

A case of recurrent paralysis of the motor oculi. *Boston M. & S. J.*, 1887. Also *Tr. Am. Ophth. Soc.*, 1887.

A case of congenital, zonular, grayish-white opacity around the fovea. Detachment of the retina in both eyes, with albuminuria of pregnancy; replacement of retina. *Boston M. & S. J.*, 1887. *Tr. Am. Ophth. Soc., Boston*, 1887.

A case of recurrent paralysis of the third nerve. *Boston M. & S. J.*, 1887.

The amblyopia of squint. *Boston M. & S. J.*, 1887.

Ophthalmoplegia externa. *Boston M. & S. J.*, 1888.

A case of extraction of a bit of steel from the vitreous by the magnet. *Boston M. & S. J.*, 1889.

Paralysis of the sphincter iridis. *Boston M. & S. J.*, 1889.

Spastic torticollis apparently due to faulty position of the eyes, and

cured by tenotomy. *Boston M. & S. J.*, 1889. *Tr. Am. Ophth. Soc., Hartford*, 1889.

Two cases of extraction from the vitreous, of steel which had passed through the lens. *Boston M. & S. J.*, 1889. *Tr. Am. Ophth. Soc., Hartford*, 1889.

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In addition, Dr. Wadsworth wrote the Report on Ophthalmology for the Boston Medical and Surgical Journal for about fourteen years.





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BY  
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VOLUME I  
THE EARLY PERIOD  
FROM 1607 TO 1763  
NEW YORK  
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(Corrected to July 1, 1914.)

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Hendrik Antoon Lorentz . . . . .	Leyden
Max Planck . . . . .	Berlin
Augusto Righi . . . . .	Bologna
John William Strutt, Baron Rayleigh . . . . .	Witham
Sir Joseph John Thomson . . . . .	Cambridge

CLASS I., SECTION III.—*Chemistry.*—5.

Adolf, Ritter von Baeyer . . . . .	Munich
Emil Fischer . . . . .	Berlin
Fritz Haber . . . . .	Berlin
Wilhelm Ostwald . . . . .	Leipsic
Sir Henry Enfield Roscoe . . . . .	London

CLASS I., SECTION IV.—*Technology and Engineering.*—2.

Heinrich Müller-Breslau . . . . .	Berlin
William Cawthorne Unwin . . . . .	London

CLASS II.—*Natural and Physiological Sciences.*—19.SECTION I.—*Geology, Mineralogy, and Physics of the Globe.*—5.

Waldemar Christofer Brögger . . . . .	Christiania
Sir Archibald Geikie . . . . .	Haslemere, Surrey
Viktor Goldschmidt . . . . .	Heidelberg
Julius Hann . . . . .	Vienna
Albert Heim . . . . .	Zurich

CLASS II., SECTION II.—*Botany.*—5.

John Briquet . . . . .	Geneva
Adolf Engler . . . . .	Berlin
Wilhelm Pfeffer . . . . .	Leipsic
Hermann, Graf zu Solms-Laubach . . . . .	Strassburg
Ignatz Urban . . . . .	Berlin

CLASS II., SECTION III.—*Zoölogy and Physiology.*—4.

Ludimar Hermann . . . . .	Königsberg
Sir Edwin Ray Lankester . . . . .	London
Elie Metchnikoff . . . . .	Paris
Magnus Gustav Retzius . . . . .	Stockholm

CLASS II., SECTION IV.—*Medicine and Surgery.*—5.

Emil von Behring . . . . .	Marburg
Sir Thomas Lauder Brunton, Bart . . . . .	London
Angelo Celli . . . . .	Rome
Sir Victor Alexander Haden Horsley . . . . .	London
Adam Politzer . . . . .	Vienna

CLASS III.—*Moral and Political Sciences.*—23.SECTION I.—*Theology, Philosophy and Jurisprudence.*—4.

Arthur James Balfour . . . . .	Prestonkirk
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Heinrich Brunner . . . . .	Berlin
Albert Venn Dicey . . . . .	Oxford
Sir Frederick Pollock, Bart . . . . .	London

SECTION II.—*Philology and Archaeology*.—9.

Ingram Bywater . . . . .	London
Friedrich Delitzsch . . . . .	Berlin
Hermann Diels . . . . .	Berlin
Wilhelm Dörpfeld . . . . .	Athens
Henry Jackson . . . . .	Cambridge
Hermann Georg Jacobi . . . . .	Bonn
Sir Gaston Camille Charles Maspero . . . . .	Paris
Alfred Percival Maudslay . . . . .	Hereford
Eduard Seler . . . . .	Berlin

SECTION III.—*Political Economy and History*.—5.

James Bryce . . . . .	London
Adolf Harnack . . . . .	Berlin
John Morley, Viscount Morley of Blackburn . . . . .	London
Sir George Otto Trevelyan, Bart . . . . .	London
Pasquale Villari . . . . .	Florence

SECTION IV.—*Literature and the Fine Arts*.—5.

Georg Brandes . . . . .	Copenhagen
Jean Adrien Aubin Jules Jusserand . . . . .	Paris
Rudyard Kipling . . . . .	Burwash
Sir Sidney Lee . . . . .	London
Sir James Augustus Henry Murray . . . . .	Oxford



# STATUTES AND STANDING VOTES

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## STATUTES

*Adopted November 8, 1911: amended May 8, 1912, January 8, and  
May 14, 1913*

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### CHAPTER I

#### THE CORPORATE SEAL

ARTICLE 1. The Corporate Seal of the Academy shall be as here depicted:



ARTICLE 2. The Recording Secretary shall have the custody of the Corporate Seal.

*See Chap. v. art. 3; chap. vi. art. 2.*

## CHAPTER II

## FELLOWS AND FOREIGN HONORARY MEMBERS AND DUES

ARTICLE 1. The Academy consists of Fellows, who are either citizens or residents of the United States of America, and Foreign Honorary Members. They are arranged in three Classes, according to the Arts and Sciences in which they are severally proficient, and each Class is divided into four Sections, namely:

CLASS I. *The Mathematical and Physical Sciences*

- Section 1. Mathematics and Astronomy
- Section 2. Physics
- Section 3. Chemistry
- Section 4. Technology and Engineering

CLASS II. *The Natural and Physiological Sciences*

- Section 1. Geology, Mineralogy, and Physics of the Globe
- Section 2. Botany
- Section 3. Zoölogy and Physiology
- Section 4. Medicine and Surgery

CLASS III. *The Moral and Political Sciences*

- Section 1. Theology, Philosophy, and Jurisprudence
- Section 2. Philology and Archaeology
- Section 3. Political Economy and History
- Section 4. Literature and the Fine Arts

ARTICLE 2. The number of Fellows shall not exceed Six hundred, of whom not more than Four hundred shall be residents of Massachusetts, nor shall there be more than Two hundred in any one Class.

ARTICLE 3. The number of Foreign Honorary Members shall not exceed Seventy-five. They shall be chosen from among citizens of foreign countries most eminent for their discoveries and attainments in any of the Classes above enumerated. There shall not be more than Twenty-five in any one Class.

ARTICLE 4. If any person, after being notified of his election as Fellow, shall neglect for two months to accept in writing and to pay his Admission Fee (unless he be at that time absent from the Commonwealth) his election shall be void; and if any Fellow resident within fifty miles of Boston shall neglect to pay his Annual Dues for twelve months after they are due, provided his attention shall have been

called to this Article of the Statutes in the meantime, he shall cease to be a Fellow; but the Council may suspend the provisions of this Article for a reasonable time.

With the previous consent of the Council, the Treasurer may dispense (*sub silentio*) with the payment of the Admission Fee or of the Annual Dues or both whenever he shall deem it advisable. In the case of officers of the Army or Navy who are out of the Commonwealth on duty, payment of the Annual Dues may be waived during such absence if continued during the whole financial year and if notification of such expected absence be sent to the Treasurer. Upon similar notification to the Treasurer, similar exemption may be accorded to Fellows subject to Annual Dues, who may temporarily remove their residence for at least two years to a place more than fifty miles from Boston.

If any person elected a Foreign Honorary Member shall neglect for six months after being notified of his election to accept in writing, his election shall be void.

*See Chap. vii art. 2.*

ARTICLE 5. Every Fellow hereafter elected shall pay an Admission Fee of Ten dollars.

Every Fellow resident within fifty miles of Boston shall, and others may, pay such Annual Dues, not exceeding Fifteen dollars, as shall be voted by the Academy at each Annual Meeting, when they shall become due; but any Fellow shall be exempt from the annual payment if, at any time after his admission, he shall pay into the treasury Two hundred dollars in addition to his previous payments.

All Commutations of the Annual Dues shall be and remain permanently funded, the interest only to be used for current expenses.

Any Fellow not previously subject to Annual Dues who takes up his residence within fifty miles of Boston, shall pay to the Treasurer within three months thereafter Annual Dues for the current year, failing which his Fellowship shall cease; but the Council may suspend the provisions of this Article for a reasonable time.

Only Fellows who pay Annual Dues or have commuted them may hold office in the Academy or serve on the Standing Committees or vote at meetings.

ARTICLE 6. Fellows who pay or have commuted the Annual Dues and Foreign Honorary Members shall be entitled to receive gratis one copy of all Publications of the Academy issued after their election.

*See Chap. x. art. 2.*

ARTICLE 7. Diplomas signed by the President and the Vice-President of the Class to which the member belongs, and countersigned by the Secretaries, shall be given to all the Fellows and Foreign Honorary Members.

ARTICLE 8. If, in the opinion of a majority of the entire Council, any Fellow or Foreign Honorary Member shall have rendered himself unworthy of a place in the Academy, the Council shall recommend to the Academy the termination of his membership; and if three fourths of the Fellows present, out of a total attendance of not less than fifty, at a Stated Meeting, or at a Special Meeting called for the purpose, shall adopt this recommendation, his name shall be stricken from the Roll.

*See Chap. iii.; chap. vi. art. 1; chap. ix. art. 1, 7; chap. x. art. 2.*

### CHAPTER III

#### ELECTION OF FELLOWS AND FOREIGN HONORARY MEMBERS

ARTICLE 1. Elections of Fellows and Foreign Honorary Members shall be by ballot, and only at the Stated Meetings in January and May. Three fourths of the ballots cast, and not less than twenty, must be affirmative to effect an election.

ARTICLE 2. Candidates must be proposed in writing by two Fellows of the Section for which the proposal is made. These signed nominations shall be sent to the Corresponding Secretary and shall be retained by him until the fifteenth of the following October or February, as the case may be, when all nominations then in his hands shall be immediately sent in printed form to every Fellow having the right to vote, with the names of the proposers in each case, and with a request to send to the Corresponding Secretary written comments on these names not later than the fifth of November or the fifth of March respectively.

All the signed nominations, with the comments thereon, received up to the fifth of November or the fifth of March shall be sent at once to the appropriate Class Committees, which shall report their decisions to the Council at a special meeting to be called to consider nominations, not later than two days before the meeting of the Academy in December and April respectively.

ARTICLE 3. All nominations approved by the Council shall be read to the Academy at a meeting in December or in April, or be sent to the

Fellows in print with the official notice of the meeting, and shall then be posted in the Hall of the Academy until the balloting.

Not later than two weeks after any nomination is reported to the Academy, the Corresponding Secretary shall send to every Fellow having the right to vote a brief printed account of the nominee.

*See Chap. ii.; chap. vi. art. 1; chap. ix. art. 1.*

## CHAPTER IV

### OFFICERS

ARTICLE 1. The Officers of the Academy shall be a President (who shall be Chairman of the Council), three Vice-Presidents (one from each Class), a Corresponding Secretary (who shall be Secretary of the Council), a Recording Secretary, a Treasurer, and a Librarian, all of whom shall be elected by ballot at the Annual Meeting, and shall hold their respective offices for one year, and until others are duly chosen and installed.

There shall be also twelve Councillors, one from each Section of each Class. At the Annual Meeting in 1912 three Councillors, one from each Class, shall be elected by ballot to serve for one year, three for two years, three for three years, and three for four years. At each subsequent Annual Meeting three Councillors, one from each Class, shall be elected by ballot to serve for the full term of four years and until others are duly chosen and installed. The same Fellow shall not be eligible for two successive terms.

The Councillors, with the other officers previously named, and the Chairman of the House Committee, *ex officio*, shall constitute the Council.

*See Chap. x. art. 1.*

ARTICLE 2. If any office shall become vacant during the year, the vacancy may be filled by the Council in its discretion for the unexpired term.

ARTICLE 3. At the Stated Meeting in March, the President shall appoint a Nominating Committee of three Fellows having the right to vote, one from each Class. This Committee shall prepare a list of nominees for the several offices to be filled, and for the Standing Committees, and cause it to be sent to the Recording Secretary not later than four weeks before the Annual Meeting.

ARTICLE 4. Independent nominations for any office, if signed by at least twenty Fellows having the right to vote, and received by the Recording Secretary not less than ten days before the Annual Meeting, shall be inserted, together with the list of nominees prepared by the Nominating Committee, in the call therefor, and shall be mailed to all the Fellows.

*See Chap. vi. art. 2.*

ARTICLE 5. The Recording Secretary shall prepare for use in voting at the Annual Meeting a ballot containing the names of all persons duly nominated for office.

## CHAPTER V

### THE PRESIDENT

ARTICLE 1. The President, or in his absence the senior Vice-President present (seniority to be determined by length of continuous fellowship in the Academy), shall preside at all meetings of the Academy. In the absence of all these officers, a Chairman of the meeting shall be chosen by ballot.

ARTICLE 2. Unless otherwise ordered, all Committees which are not elected by ballot shall be appointed by the presiding officer.

ARTICLE 3. Any deed or writing to which the Corporate Seal is to be affixed, except leases of real estate, shall be executed in the name of the Academy by the President or, in the event of his death, absence, or inability, by one of the Vice-Presidents, when thereto duly authorized.

*See Chap. ii. art. 7; chap. iv. art. 1, 3; chap. vi. art. 2; chap. vii. art. 1; chap. ix. art. 6; chap. x. art. 1; 2; chap. xi. art. 1.*

## CHAPTER VI

### THE SECRETARIES

ARTICLE 1. The Corresponding Secretary shall conduct the correspondence of the Academy and of the Council, recording or making an entry of all letters written in its name, and preserving for the files all official papers which may be received. At each meeting of the Council he shall present the communications addressed to the Academy which



have been received since the previous meeting, and at the next meeting of the Academy he shall present such as the Council may determine.

He shall notify all persons who may be elected Fellows or Foreign Honorary Members, send to each a copy of the Statutes, and on their acceptance issue the proper Diploma. He shall also notify all meetings of the Council; and in case of the death, absence, or inability of the Recording Secretary he shall notify all meetings of the Academy.

Under the direction of the Council, he shall keep a List of the Fellows and Foreign Honorary Members, arranged in their several Classes and Sections. It shall be printed annually and issued as of the first day of July.

*See* Chap. ii. art. 7; chap. iii. art. 2, 3; chap. iv. art. 1; chap. ix. art. 6; chap. x. art. 1; chap. xi. art. 1.

ARTICLE 2. The Recording Secretary shall have the custody of the Charter, Corporate Seal, Archives, Statute-Book, Journals, and all literary papers belonging to the Academy.

Fellows borrowing such papers or documents shall receipt for them to their custodian.

The Recording Secretary shall attend the meetings of the Academy and keep a faithful record of the proceedings with the names of the Fellows present; and after each meeting is duly opened, he shall read the record of the preceding meeting.

He shall notify the meetings of the Academy to each Fellow by mail at least seven days beforehand, and in his discretion may also cause the meetings to be advertised; he shall apprise Officers and Committees of their election or appointment, and inform the Treasurer of appropriations of money voted by the Academy.

He shall post in the Hall a list of the persons nominated for election into the Academy; and after all elections, he shall insert in the Records the names of the Fellows by whom the successful candidates were nominated.

In the absence of the President and of the Vice-Presidents he shall, if present, call the meeting to order, and preside until a Chairman is chosen.

*See* Chap. i.; chap. ii. art. 7; chap. iv. art. 3, 4, 5; chap. ix. art. 6; chap. x. art. 1, 2; chap. xi. art. 1, 3.

ARTICLE 3. The Secretaries, with the Chairman of the Committee of Publication, shall have authority to publish such of the records of the meetings of the Academy as may seem to them likely to promote its interests.

## CHAPTER VII

## THE TREASURER AND THE TREASURY

ARTICLE 1. The Treasurer shall collect all money due or payable to the Academy, and all gifts and bequests made to it. He shall pay all bills due by the Academy, when approved by the proper officers, except those of the Treasurer's office, which may be paid without such approval; in the name of the Academy he shall sign all leases of real estate; and, with the written consent of a member of the Committee on Finance, he shall make all transfers of stocks, bonds, and other securities belonging to the Academy, all of which shall be in his official custody.

He shall keep a faithful account of all receipts and expenditures, submit his accounts annually to the Auditing Committee, and render them at the expiration of his term of office, or whenever required to do so by the Academy or the Council.

He shall keep separate accounts of the income of the Rumford Fund, and of all other special Funds, and of the appropriation thereof, and render them annually.

His accounts shall always be open to the inspection of the Council.

ARTICLE 2. He shall report annually to the Council at its March meeting on the expected income of the various Funds and from all other sources during the ensuing financial year. He shall also report the names of all Fellows who may be then delinquent in the payment of their Annual Dues.

ARTICLE 3. He shall give such security for the trust reposed in him as the Academy may require.

ARTICLE 4. With the approval of a majority of the Committee on Finance, he may appoint an Assistant Treasurer to perform his duties, for whose acts, as such assistant, he shall be responsible; or, with like approval and responsibility, he may employ any Trust Company doing business in Boston as his agent for the same purpose, the compensation of such Assistant Treasurer or agent to be fixed by the Committee on Finance and paid from the funds of the Academy.

ARTICLE 5. At the Annual Meeting he shall report in print all his official doings for the preceding year, stating the amount and condition

of all the property of the Academy entrusted to him, and the character of the investments.

ARTICLE 6. The Financial Year of the Academy shall begin with the first day of April.

ARTICLE 7. No person or committee shall incur any debt or liability in the name of the Academy, unless in accordance with a previous vote and appropriation therefor by the Academy or the Council, or sell or otherwise dispose of any property of the Academy, except cash or invested funds, without the previous consent and approval of the Council.

*See* Chap. ii. art. 4, 5; chap. vi. art. 2; chap. ix. art. 6; chap. x. art. 1, 2, 3; chap. xi. art.

## CHAPTER VIII

### THE LIBRARIAN AND THE LIBRARY

ARTICLE 1. The Librarian shall have charge of the printed books, keep a correct catalogue thereof, and provide for their delivery from the Library.

At the Annual Meeting, as Chairman of the Committee on the Library, he shall make a Report on its condition.

ARTICLE 2. In conjunction with the Committee on the Library he shall have authority to expend such sums as may be appropriated by the Academy for the purchase of books, periodicals, etc., and for defraying other necessary expenses connected with the Library.

ARTICLE 3. All books procured from the income of the Rumford Fund or of other special Funds shall contain a book-plate expressing the fact.

ARTICLE 4. Books taken from the Library shall be receipted for to the Librarian or his assistant.

ARTICLE 5. Books shall be returned in good order, regard being had to necessary wear with good usage. If any book shall be lost or injured, the Fellow to whom it stands charged shall replace it by a new volume or by a new set, if it belongs to a set, or pay the current price thereof to the Librarian, whereupon the remainder of the set, if any,

shall be delivered to the Fellow so paying, unless such remainder be valuable by reason of association.

ARTICLE 6. All books shall be returned to the Library for examination at least one week before the Annual Meeting.

ARTICLE 7. The Librarian shall have the custody of the Publications of the Academy. With the advice and consent of the President, he may effect exchanges with other associations.

*See Chap. ii. art. 6; chap. x. art. 1, 2.*

## CHAPTER IX

### THE COUNCIL

ARTICLE 1. The Council shall exercise a discreet supervision over all nominations and elections to membership, and in general supervise all the affairs of the Academy not explicitly reserved to the Academy as a whole or entrusted by it or by the Statutes to standing or special committees.

It shall consider all nominations duly sent to it by any Class Committee, and present to the Academy for action such of these nominations as it may approve by a majority vote of the members present at a meeting, of whom not less than seven shall have voted in the affirmative.

With the consent of the Fellow interested, it shall have power to make transfers between the several Sections of the same Class, reporting its action to the Academy.

*See Chap. iii. art. 2, 3; chap. x. art. 1.*

ARTICLE 2. Seven members shall constitute a quorum.

ARTICLE 3. It shall establish rules and regulations for the transaction of its business, and provide all printed and engraved blanks and books of record.

ARTICLE 4. It shall act upon all resignations of officers, and all resignations and forfeitures of fellowship; and cause the Statutes to be faithfully executed.

It shall appoint all agents and subordinates not otherwise provided for by the Statutes, prescribe their duties, and fix their compensation.

They shall hold their respective positions during the pleasure of the Council.

ARTICLE 5. It may appoint, for terms not exceeding one year, and prescribe the functions of, such committees of its number, or of the Fellows of the Academy, as it may deem expedient, to facilitate the administration of the affairs of the Academy or to promote its interests.

ARTICLE 6. At its March meeting it shall receive reports from the President, the Secretaries, the Treasurer, and the Standing Committees, on the appropriations severally needed for the ensuing financial year. At the same meeting the Treasurer shall report on the expected income of the various Funds and from all other sources during the same year.

A report from the Council shall be submitted to the Academy, for action, at the March meeting, recommending the appropriation which in the opinion of the Council should be made.

On the recommendation of the Council, special appropriations may be made at any Stated Meeting of the Academy, or at a Special Meeting called for the purpose.

*See Chap. x. art. 3.*

ARTICLE 7. After the death of a Fellow or Foreign Honorary Member, it shall appoint a member of the Academy to prepare a Memoir for publication in the Proceedings.

ARTICLE 8. It shall report at every meeting of the Academy such business as it may deem advisable to present.

*See Chap. ii. art. 4, 5, 8; chap. iv. art. 1, 2; chap. vi. art. 1; chap. vii. art. 1; chap. xi. art. 1, 4.*

## CHAPTER X

### STANDING COMMITTEES

ARTICLE 1. The Class Committee of each Class shall consist of the Vice-President, who shall be chairman, and the four Councillors of the Class, together with such other officer or officers annually elected as may belong to the Class. It shall consider nominations to Fellowship in its own Class, and report in writing to the Council such as may receive at a Class Committee Meeting a majority of the votes cast, provided at least three shall have been in the affirmative.

*See Chap. iii. art. 2.*

ARTICLE 2. At the Annual Meeting the following Standing Committees shall be elected by ballot to serve for the ensuing year:

(i) *The Committee on Finance*, to consist of three Fellows, who, through the Treasurer, shall have full control and management of the funds and trusts of the Academy, with the power of investing the funds and of changing the investments thereof in their discretion.

*See Chap. iv. art. 3; chap. vii. art. 1, 4; chap. ix. art. 6.*

(ii) *The Rumford Committee*, to consist of seven Fellows, who shall report to the Academy on all applications and claims for the Rumford Premium. It alone shall authorize the purchase of books publications and apparatus at the charge of the income from the Rumford Fund, and generally shall see to the proper execution of the trust.

*See Chap. iv. art. 3; chap. ix. art. 6.*

(iii) *The Cyrus Moors Warren Committee*, to consist of seven Fellows, who shall consider all applications for appropriations from the income of the Cyrus Moors Warren Fund, and generally shall see to the proper execution of the trust.

*See Chap. iv. art. 3; chap. ix. art. 6.*

(iv) *The Committee of Publications*, to consist of three Fellows, one from each Class, to whom all communications submitted to the Academy for publication shall be referred, and to whom the printing of the Proceedings and the Memoirs shall be entrusted.

It shall fix the price at which the Publications shall be sold; but Fellows may be supplied at half price with volumes which may be needed to complete their sets, but which they are not entitled to receive gratis.

Two hundred extra copies of each paper accepted for publication in the Proceedings or the Memoirs shall be placed at the disposal of the author without charge.

*See Chap. iv. art. 3; chap. vi. art. 1, 3; chap. ix. art. 6.*

(v) *The Committee on the Library*, to consist of the Librarian, *ex officio*, as Chairman, and three other Fellows, one from each Class, who shall examine the Library and make an annual report on its condition and management.

*See Chap. iv. art. 3; chap. viii. art. 1, 2; chap. ix. art. 6.*

(vi) *The House Committee*, to consist of three Fellows, who shall have charge of all expenses connected with the House, including the general expenses of the Academy not specifically assigned to the care of other Committees or Officers.

*See* Chap. iv. art. 1, 3; chap. ix. art. 6.

(vii) *The Committee on Meetings*, to consist of the President, the Recording Secretary, and three other Fellows, who shall have charge of plans for meetings of the Academy.

*See* Chap. iv. art. 3; chap. ix. art. 6.

(viii) *The Auditing Committee*, to consist of two Fellows, who shall audit the accounts of the Treasurer, with power to employ an expert and to approve his bill.

*See* Chap. iv. art. 3; chap. vii. art. 1; chap. ix. art. 6.

ARTICLE 3. The Standing Committees shall report annually to the Council in March on the appropriations severally needed for the ensuing financial year; and all bills incurred on account of these Committees, within the limits of the several appropriations made by the Academy, shall be approved by their respective Chairmen.

In the absence of the Chairman of any Committee, bills may be approved by any member of the Committee whom he shall designate for the purpose.

*See* Chap. vii. art. 1, 7; chap. ix. art. 6.

## CHAPTER XI

### MEETINGS, COMMUNICATIONS, AND AMENDMENTS

ARTICLE 1. There shall be annually four Stated Meetings of the Academy, namely, on the second Wednesday of January, March, May, and October. Only at these meetings, or at adjournments thereof regularly notified, or at Special Meetings called for the purpose, shall appropriations of money be made, or amendments of the Statutes or Standing Votes be effected.

The Stated Meeting in May shall be the Annual Meeting of the Corporation.

Special Meetings shall be called by either of the Secretaries at the request of the President, of a Vice-President, of the Council, or of ten



Fellows having the right to vote; and notifications thereof shall state the purpose for which the meeting is called.

A meeting for receiving and discussing literary or scientific communications may be held on the second or the fourth Wednesday, or both, of each month not appointed for Stated Meetings, excepting July, August, and September; but no business shall be transacted at any meeting which may be held on the fourth Wednesday.

ARTICLE 2. Twenty Fellows having the right to vote shall constitute a quorum for the transaction of business at Stated or Special Meetings. Fifteen Fellows shall be sufficient to constitute a meeting for literary or scientific communications and discussions.

ARTICLE 3. Upon the request of the presiding officer or the Recording Secretary, any motion or resolution offered at any meeting shall be submitted in writing.

ARTICLE 4. No report of any paper presented at a meeting of the Academy shall be published by any Fellow without the consent of the author; and no report shall in any case be published by any Fellow in a newspaper as an account of the proceedings of the Academy without the previous consent and approval of the Council. The Council, in its discretion, by a duly recorded vote, may delegate its authority in this regard to one or more of its members.

ARTICLE 5. No Fellow shall introduce a guest at any meeting of the Academy until after the business has been transacted, and especially until after nominations to Fellowship have been read and the result of the balloting for candidates has been declared.

ARTICLE 6. The Academy shall not express its judgment on literary or scientific memoirs or performances submitted to it, or included in its Publications.

ARTICLE 7. All proposed Amendments of the Statutes shall be referred to a committee, and on its report, at a subsequent Stated Meeting or at a Special Meeting called for the purpose, two thirds of the ballot cast, and not less than twenty, must be affirmative to effect enactment.

ARTICLE 8. Standing Votes may be passed, amended, or rescinded at a Stated Meeting, or at a Special Meeting called for the purpose, by a vote of two thirds of the members present. They may be suspended by a unanimous vote.

*See* Chap. ii. art. 5, 8; chap. iii.; chap. iv. art. 3, 4, 5; chap. v. art. 1; chap. vi. art. 1, 2; chap. ix. art. 8.



## STANDING VOTES

1. Communications of which notice has been given to either of the Secretaries shall take precedence of those not so notified.

2. Fellows may take from the Library six volumes at any one time, and may retain them for three months, and no longer. Upon special application, and for adequate reasons assigned, the Librarian may permit a larger number of volumes, not exceeding twelve, to be drawn from the Library for a limited period.

3. Works published in numbers, when unbound, shall not be taken from the Hall of the Academy without the leave of the Librarian.

4. There may be chosen by the Academy, under the same rules by which Fellows are now chosen, one hundred Resident Associates. Not more than forty Resident Associates shall be chosen in any one Class.

The election of Resident Associates shall be for a term of three years with eligibility for reelection.

Resident Associates shall be entitled to the same privileges as Fellows, in the use of the Academy building, may attend meetings and present papers, but they shall not have the right to vote. They shall pay no Admission Fee, and their Annual Dues shall be one-half that of Fellows residing within fifty miles of Boston.

The Council and Committees of the Academy may ask one or more Resident Associates to act with them in an advisory or assistant capacity.

## RUMFORD PREMIUM

In conformity with the terms of the gift of Sir Benjamin Thompson, Count Rumford, of a certain Fund to the American Academy of Arts and Sciences, and with a decree of the Supreme Judicial Court of Massachusetts for carrying into effect the general charitable intent and purpose of Count Rumford, as expressed in his letter of gift, the Academy is empowered to make from the income of the Rumford Fund, as it now exists, at any Annual Meeting, an award of a gold and a silver medal, being together of the intrinsic value of three hundred dollars,

as a Premium to the author of any important discovery or useful improvement in light or heat, which shall have been made and published by printing, or in any way made known to the public, in any part of the continent of America, or any of the American Islands; preference always being given to such discoveries as, in the opinion of the Academy, shall tend most to promote the good of mankind; and, if the Academy sees fit, to add to such medals, as a further Premium for such discovery and improvement, a sum of money not exceeding three hundred dollars.

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- Backlund, J. O., elected Foreign Honorary Member, 671.
- Bacon, Roger, seventh centenary of, 647.
- Baker, G. P., elected Fellow, 653; accepts Fellowship, 654.
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- Beale, J. H., appointed member of Nominating Committee, 657.
- Bell, Louis, Types of Abnormal Color Vision, 655.
- Bigelow, R. P., elected Fellow, 653; accepts Fellowship, 654.
- Bigelow, W. S., Details of the Budhist System, 654; On the Method of Practising Concentration and Contemplation, by Chisho Daishi, a Monk of the Shuzenji Monastery of Tendai Mountain: translated from the Chinese by Okakura Kakuzo, 651; The Relation of Samaji to the Normal Waking Consciousness, 655.
- Birkhoff, G. D., accepts Fellowship, 647. The Generalized Riemann Problem for Linear Differential Equations and the Allied Problems for Linear Difference and *q*-Difference Equations, 519.
- Blake, C. J., Biographical notice of O. F. Wadsworth, 651, 673.
- Blake, S. F., Contributions from the Gray Herbarium of Harvard University. New Series, No. XLI.—I. A Redisposition of the Species heretofore referred to *Leptosyne*. II. A Revision of *Encelia* and some related Genera, 333.
- Bloomfield, Maurice, elected Fellow, 670.
- Blue Hills, Mass., U. S. A., Petrology of the Alkali-Granites and Porphyries of, 201.
- Bogert, M. T., elected Fellow, 670.
- Boston Rotary Club, tickets from, 652.
- Bouton, C. L., elected Fellow, 653; accepts Fellowship, 654.
- Bowditch, C. P., Report of Treasurer, 659.
- Bowles, F. T., elected Fellow, 653; accepts Fellowship, 654.
- Brandes, Georg., 659.
- Bridgman, P. W., Phase Changes under Pressure. I. The Phase Diagram of Eleven Substances with especial reference to the Melting Curve, 648; The Technique of High Pressure Experimenting, 625, 654; Thermodynamic Properties of Twelve Liquids between 20° and 80° and up to 12000 kgm. per Sq. Cm., 1.
- Briquet, John, elected Foreign Honorary Member, 671.
- British Honduras, On the Graminaea collected by Prof. M. E. Peck in, 493.

- Brøgger, W. C., elected Foreign Honorary Member, 654; accepts Membership, 656.
- Buddhaghosa's Treatise on Buddhism, entitled *The Way of Salvation*: analysis of Part I, on Morality, 147.
- Buddhism, Buddhaghosa's Treatise on, entitled *The Way of Salvation*: analysis of Part I, on Morality, 147.
- Buddhist System, Details of, 654.
- Bullard, C. See Parker, G. H., and Bullard, C.
- Bullock, C. J., accepts Fellowship, 647.
- Burnstead H. A., elected Fellow, 653.
- Burr, W. H., elected Fellow, 653; accepts Fellowship, 654.
- Cannon, W. B., *The Antagonism of Emotional States and the Significance as suggested by Recent Physiological Researches*, 657.
- Carrel, Alexis, elected Fellow, 670.
- Carson, H. A., elected Fellow, 653; declines Fellowship, 658.
- Chadwick, G. W., accepts Fellowship, 647.
- Chandler, S. C., death of, 652.
- Channing, Edward, resigns Fellowship, 648.
- Chapin, C. V., elected Fellow, 670.
- Christian, H. A., accepts Fellowship, 647.
- Chrysomelidae, Laboulbeniales Parasitic on, 671.
- Circolo Matematico di Palermo, thirtieth anniversary of, 656.
- Climate of New England, *The Weather Element in the*, 671.
- Clinton, G. P., elected Fellow, 670.
- Color Vision, *Types of Abnormal*, 655.
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- Conduction, On Electric, and Thermo-electric Action in Metals, 657.
- Conklin, E. G., elected Fellow, 670.
- Consciousness, *The Relation of Samaji to the Normal Waking Consciousness*, 655.
- Coolidge, Baldwin, presents lithograph of Rumford House, 651.
- Coolidge, H. C., appointed to confer with others, 657.
- Coolidge, J. L., accepts Fellowship, 647.
- Coolidge, W. D., *Demonstration of a New X-ray Tube*, devised by, 658; Rumford Premium awarded to, 668.
- Council, Report of, 659.
- Crew, Henry, accepts Fellowship, 647.
- Cross, C. R., Report of the Rumford Committee, 665.
- Crothers, S. M., accepts Fellowship, 647.
- Current, Steady, in the Primary Circuit, *The Influence of the Magnetic Characteristics of the Iron Core of an Induction Coil upon the Manner of Establishment of a*, 671.
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- Cushing, Harvey, elected Fellow, 653; accepts Fellowship, 654.
- Daishi, Chisho, a Monk of the Shuzenji Monastery of Tendai Mountain, *On the Method of Practising Concentration and Contemplation*, 651.
- Daly, R. A., appointed Member of Nominating Committee, 657.
- Day, H. L., *Observations of the Volcano Kilauea (Hawaii) in action*, 658.
- De Normandie, James, elected Fellow, 670.
- Deutsche Shakespeare Gesellschaft, fiftieth anniversary of, 656; 658.
- Dewey, D. R., accepts Fellowship, 647.
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- Drisko, W. J., elected Fellow, 670.
- Duane, William, elected Fellow, 670.
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  - S. C. Chandler, 652.
  - R. H. Fitz, 647.
  - G. W. Hill, 659.
  - E. S. Holden, 658.
  - S. W. Mitchell, 652.
  - Alfred Noble, 659.
  - Okakura-Kakuzo, 647.
  - B. O. Peirce, 652.
  - C. S. S. Peirce, 659.
  - C. P. Putnam, 659.
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- F. G. Allinson, 670.
  - W. R. Arnold, 653.
  - G. P. Baker, 653.
  - R. P. Bigelow, 653.
  - M. Bloomfield, 670.
  - M. T. Bogert, 670.
  - C. L. Bouton, 653.
  - F. T. Bowles, 653.
  - H. A. Bumstead, 653.
  - W. H. Burr, 653.
  - Alexis Carrel, 670.
  - H. A. Carson, 653.
  - C. V. Chapin, 670.
  - G. P. Clinton, 670.
  - E. G. Conklin, 670.
  - Harvey Cushing, 653.
  - James de Normandie, 670.
  - W. J. Drisko, 670.
  - William Duane, 670.
  - H. W. Farnum, 653.
  - J. D. M. Ford, 653.
  - G. A. Gordon, 670.
  - L. C. Graton, 670.
  - J. H. Hammond, 653.
  - J. W. Hammond, 670.
  - Alfred Hemenway, 670.
  - Rudolph Hering, 653.
  - B. H. Hill, 670.
  - H. M. Howe, 653.
  - J. C. Hubbard, 653.
  - A. C. Humphreys, 670.
  - C. C. Hutchins, 670.
  - J. E. Ives, 653.
  - H. S. Jennings, 670.
  - E. P. Kohler, 653.
  - A. B. Lamb, 653.
  - F. D. Lambert, 670.
  - R. S. Lillie, 670.
  - B. E. Livingston, 670.
  - Jacques Loeb, 670.
  - G. R. Lyman, 670.
  - Nathan Matthews, 670.
  - R. B. Merriman, 653.
  - E. G. Merritt, 670.
  - D. C. Miller, 670.
  - E. F. Miller, 653.
  - R. A. Millikan, 670.
  - C. L. E. Moore, 653.
  - H. N. Morse, 670.
  - H. V. Neal, 670.
  - W. A. Neilson, 653.
  - F. H. Newell, 653.
  - T. B. Osborne, 670.
  - W. B. Parsons, 653.
  - Bliss Perry, 653.
  - E. D. Peters, 670.
  - S. C. Prescott, 670.
  - Alfred Rehder, 670.
  - G. A. Reisner, 670.
  - R. G. D. Richardson, 670.
  - M. A. Rosanoff, 670.
  - Ellery Sedgwick, 670.
  - F. C. Shattuck, 670.
  - Alexander Smith, 653.
  - E. F. Smith, 670.
  - C. M. Spofford, 653.
  - J. O. Stieglitz, 653.
  - R. P. Strong, 653.
  - W. H. Taft, 653.
  - E. E. Tyzzer, 653.
  - F. H. Verhoeff, 670.
  - W. C. Wait, 670.
  - Eugene Wambaugh, 670.
  - G. C. Whipple, 670.
  - H. P. Whitlock, 653.
  - J. H. Wigmore, 670.
  - C. H. Williams, 653.
  - G. G. Wilson, 653.
  - G. P. Winship, 653.
  - Owen Wister, 670.
  - J. H. Woods, 653.
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- F. B. Dexter, 647.
  - A. B. Hart, 651.
  - C. S. Hastings, 647.
  - J. T. Morse, Jr., 647.
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 Ford, J. D. M., elected Fellow, 653; accepts Fellowship, 654.  
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 Johann Oskar Backlund, 671.  
 John Briquet, 671.  
 Waldemar Christofer Brögger, 654.  
 Viktor Goldschmidt, 671.  
 Fritz Haber, 671.  
 Sir Sidney Lee, 671.  
 Alfred Percival Maudslay, 654.  
 Sir James Augustus Henry Murray, 654.  
 Walter Nernst, 671.  
 Ignatz Urban, 671.  
 Max Planck, 671.  
 Eugene Warming, 671.  
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 Gay, E. F., accepts Fellowship, 647.  
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 Gordon, G. A., elected Fellow, 670.  
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 Grandgent, C. H., accepts Fellowship, 647.  
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 Grant, Robert, accepts Fellowship, 647.  
 Graton, L. C., elected Fellow, 670.  
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 Gulick, C. B., accepts Fellowship, 647.  
 Haber, Fritz, elected Foreign Honorary Member, 671.  
 Hall, E. H., On Electric Conduction and Thermo-electric Action in Metals, 657.  
 Hammond, J. H., elected Fellow, 653; accepts Fellowship, 658.  
 Hammond, J. W., elected Fellow, 670.  
 Hart, A. B., declines Fellowship, 651.  
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 Haskins, C. H., accepts Fellowship, 647.  
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 Hayes, H. V., Government Ownership of Telephones in England, 654.  
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 Hemenway, Alfred, elected Fellow, 670.  
 Hering, Rudolph, elected Fellow, 653; accepts Fellowship, 654.  
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 Hill, B. H., elected Fellow, 670.  
 Hill, G. W., death of, 659.  
 Holden, E. S., death of, 658.  
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 Howe, H. M., elected Fellow, 653; accepts Fellowship, 654.  
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 Hubbard, J. C., elected Fellow, 653; accepts Fellowship, 656.  
 Humphreys, A. C., elected Fellow, 670.

- Huntington, E. V., accepts Fellowship, 647.
- Hutchins, C. C., elected Fellow, 670.
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- Hydrobromic Acid, An Improved Method for Determining the Specific Heats of Liquids, with Data concerning, 171.
- Hydrochloric Acid, An Improved Method for Determining the Specific Heats of Liquids, with Data concerning, 171.
- Induction Coil, The Influence of the Magnetic Characteristics of the Iron Core of an, upon the Manner of Establishment of a Steady Current in the Primary Circuit, 671.
- International Rules, Some new Combinations required by the, 492.
- Iron, The Maximum Value of the Magnetization in, 115.
- Iron Core of an Induction Coil, The Influence of the Magnetic Characteristics of the, upon the Manner of Establishment of a Steady Current in the Primary Circuit, 671.
- Ives, J. E., elected Fellow, 653; accepts Fellowship, 654.
- von Jagemann, H. C. G., accepts Fellowship, 647.
- Jardin Impériale Botanique de St. Petersburg, celebration of, 647.
- Jefferson Physical Laboratory, Contributions from, 1, 115, 625.
- Jennings, H. S., elected Fellow, 670.
- Jewett, J. R., accepts Fellowship, 647.
- Kent, N. A., accepts Fellowship, 647.
- Kilauea, Observations of the Volcano, in action, 658.
- Kohler, E. P., elected Fellow, 653; accepts Fellowship, 654.
- Kutchin, H. C., Studies on the Peripheral Nervous System of *Amphioxus*, 659.
- Laboulbeniales Parasitic on Chrysomelidae, 671.
- Lamb, A. B., elected Fellow, 653; accepts Fellowship, 654.
- Lambert, F. D., elected Fellow, 670.
- Lanman, C. R., Buddhaghosa's Treatise on Buddhism, entitled The Way of Salvation: analysis of Part I, on Morality, 147.
- Lawrence, Wm., accepts Fellowship, 647.
- Lawrence Scientific Association, Meeting in conjunction with, 655.
- Lee, Sir Sidney, elected Foreign Honorary Member, 671.
- Leptosyne*, A Redispotion of the Species heretofore referred to, 333.
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- Library Committee, Report of, 662.
- Lillie, R. S., elected Fellow, 670.
- Linear Differential Equations and the Allied Problems for Linear Difference and  $q$ -Difference Equations, The Generalized Riemann Problem for, 519.
- Liquids, An Improved Method for Determining the Specific Heats of, 171.
- Liquids, Thermodynamic Properties of Twelve, between  $20^\circ$  and  $80^\circ$  and up to 12000 kgm. per Sq. Cm., 1.
- Lithium Hydroxide, An Improved Method for Determining the Specific Heats of Liquids, with Data concerning, 171.
- Litters, On the Size of, and the Number of Nipples in Swine, 397.
- Little, A. D., accepts Fellowship, 647.
- Livingston, B. E., elected Fellow, 670.
- Loeb, Jacques, elected Fellow, 670.
- Lyman, G. R., elected Fellow, 670.
- Lyman, Theodore, A Note on the Life of Victor Schumann, with some account of recent progress in the Extreme Ultra Violet, 655.
- Magnetic Characteristics of the Iron Core of an Induction Coil, The Influence of, upon the Manner of Establishment of a Steady Current in the Primary Circuit, 671.
- Magnetization in Iron, The Maximum Value of the, 115.
- Mallory, F. B., accepts Fellowship, 647.
- Massachusetts Institute of Technology, Department of Geology,



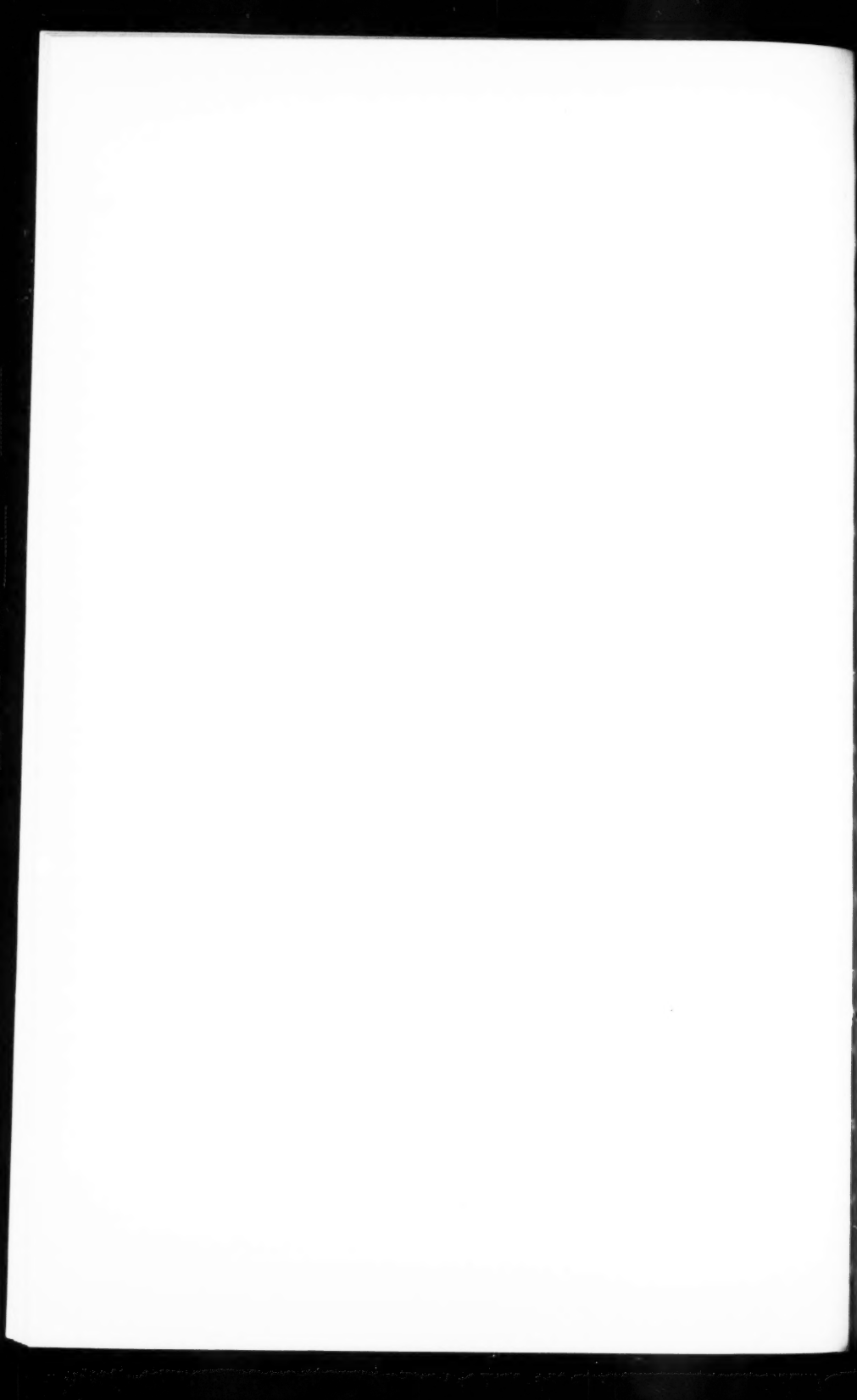
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- Matthews, Nathan, elected Fellow, 670.
- Maudslay, A. P., elected Foreign Honorary Member, 654; accepts Membership, 654.
- Melting Curve, The Phase Diagram of Eleven Substances with especial reference to the, 648.
- Merriman, R. B., elected Fellow, 653; accepts Fellowship, 654.
- Merritt, E. G., elected Fellow, 670.
- Metals, On Electric Conduction and Thermo-electric Action in, 657.
- Miller, D. C., elected Fellow, 670.
- Miller, E. F., elected Fellow, 653; accepts Fellowship, 654.
- Millikan, R. A., elected Fellow, 670.
- Mitchell, S. W., death of, 652.
- Moore, C. L. E., elected Fellow, 653; accepts Fellowship, 654.
- Morality, Buddhaghosa's Treatise on Buddhism, entitled The Way of Salvation: analysis of Part I., 147.
- Morse, H. N., elected Fellow, 670.
- Morse, J. T., Jr., declines Fellowship, 647.
- Munro, W. B., accepts Fellowship, 647.
- Murray, Sir J. A. H., elected Foreign Honorary Member, 654; accepts Membership, 656.
- Murray, Sir John, death of, 659.
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- Napier, John, Logarithmorum Canonis Mirifici Descriptio, 656.
- Naturwissenschaftliche Verein, Karlsruhe, fiftieth anniversary of, 658.
- Neal, H. V., elected Fellow, 670.
- Neilson, W. A., elected Fellow, 653; accepts Fellowship, 654.
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- Newell, F. H., elected Fellow, 653.
- Nichols, E. H., accepts Fellowship, 647.
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- Parker, G. H., and Bullard, C., On the Size of Litters and the Number of Nipples in Swine, 397.
- Parsons, W. B., elected Fellow, 653; accepts Fellowship, 654.
- Pathological Action, The, of Radiant Energy on the Eye, 671.
- Peabody, R. S., resigns Fellowship, 658.
- Peck, M. E., On the *Gramineae* collected by, in British Honduras, 1905-07, 493.
- Peirce, B. O., The Demagnetizing Factors of Cylindrical Rods in High, Uniform Fields, 657; The Influence of the Magnetic Characteristics of the Iron Core of an Induction Coil upon the Manner of Establishment of a Steady Current in the Primary Circuit, 671; The Maximum Value of the Magnetization in Iron, 115.
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- Perry, Bliss, elected Fellow, 653; declines Fellowship, 658.
- Peters, E. D., elected Fellow, 670.
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